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ABSTRACT

Results of a 1981 followup survey of a 1978 disabled freshmen group are presented, with attention directed to the current status of the students, their educational progress, and college experiences. Information is given on the research methodology, the Cooperative Institutional Research Program (CIRP), and the CIRP annual freshman survey. A comparison is made of the respondent group's characteristics and those of the nondisabled 1978 freshmen, and a detailed discussion is presented on the 1981 followup respondents by disability (orthopedic, visual, multiple, hearing, and health-related disabilities). Statistical data are also presented for learning disabled, speech impaired, emotionally disturbed, and "other" disabled students. Additional topics include: demographic, family, and educational background; 1981 status (i.e., continuous persisters, former stopouts, current stopouts, and dropouts); reasons for withdrawing or transferring; college performance; living arrangements and experiences; degree plans and career choices; disability-related issues; and personal issues, including life goals. Finally, results of regression analyses are presented regarding performance, college satisfaction, and persistence; and policy implications are discussed. Questionnaires are appended. (SW)

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ED226694

The Handicapped Student in America's Colleges: A Longitudinal Analysis

Part 3

Disabled 1978 College Freshmen Three Years Later

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EXECUTIVE SUMMARY

This report is the third and final phase of a longitudinal study of disabled 1978 freshmen. Funded by the Office of Special Education and conducted by the Higher Education Research Institute, the first phase of this study described respondents to the 1978 Cooperative Institutional Research Program annual freshmen survey who indicated they were handicapped (Lawrence, Kent, and Henson, 1981). The second phase of the study comprised a series of norms tables displaying data from 1978 and 1980 disabled and nondisabled freshmen (Henson, Kent, and Richardson, 1981). The present report, based on data from a 1981 follow-up survey of a weighted subsample of the 1978 disabled freshman group (N=3,338), relates findings for the total sample and according to their particular disability area (orthopedic, visual, multiple, hearing or health-related).

The findings from this follow-up study of disabled college students should reassure those concerned that either the handicapped or the U.S. higher education system might shirk their responsibilities once access to college is gained. The majority of respondents to the 1981 follow-up questionnaire had persisted in college, earned good grades, retained high degree aspirations, were satisfied with college, manifested high self-esteem, and looked forward to being married, having children, and to pursuing full-time careers. Further, they were much more likely to have utilized regular support services at college than special or adaptive ones, and relatively few reported encountering attitudinal barriers or experiencing difficulty with college functioning because of having a disability. In short, the mutual investment of handicapped individuals and of higher education institutions has positive payoffs, and this bodes well for the nation as more handicapped individuals enter college and universities under the federal mandate of Section 504 of the Rehabilitation Act of 1973. Indeed, the major policy implication of these data is obvious: Give the disabled access to colleges and universities, and they will match the nondisabled in their performance, progress, and promise.

Differences between the disability groups lead to a second policy implication: People with different types of handicaps must be accommodated differently. For instance, these data suggest that anticipatory interventions or support would be especially valuable to those with more than one disability, since the multiply handicapped seem to be more at risk than other groups. Even though those with health-related problems are more likely than others to have stopped out of college temporarily and to transfer from one institution to another, the same recommendation does not apply to them: They return to college, make outstanding grades, and generally have such a positive self-image that the only special accommodation they require is to make the process of temporarily stopping out less cumbersome.

Nonetheless, within each disability group, were some people who said they needed support services or accommodations that were not available, who encountered barriers frequently or occasionally rather than seldom or never, or who simply dropped out of college. Therefore, a third implication of this study is that individuals differ. In other words, we must recognize that some handicapped indviduals require more accommodation on the part of their college environment (both physical and human) than others.

A fourth implication is that reductions in financial aid to college students will adversely affect the disabled even more than their able-bodied counterparts. Both the disabled and the non-disabled finance their college education chiefly through parental support and self-support. However, because the handicapped so often have expenses associated with their disability, and because some of them are unable to work at outside jobs or to find employers willing to hire them, they and their families face especially heavy financial demands. Thus, the potential benefits of balancing the federal budget, returning responsibility heretofore assumed by the federal government to the individual, and so forth, must be weighed against the possibility that many disabled young people will no longer be able to attend college. Not only will this represent a loss to the individuals involved, but also it will carry social costs as a greater number of disabled individuals remain dependent and unable to fulfill their aspirations.

As regards further research, the data from this study offer a wealth of further analyses, as well as suggesting additional studies. These include questions of the incidence and nature of disability, in order to better understand the extent to which the handicapped realize equal opportunity in all aspects of society. More fundamental, of course, is the need to develop standardized, adequate, and relevant definitions, categories, measures, and distinctions in order to promote data-based understanding about the disabled and about how their disability affects their college and other life experiences and to compare findings about the disabled from study to study. Much more needs to be known about how various college characteristics affect persistence among the handicapped, perhaps by examining these follow-up data in combination with institutional data (e.g., size, location, selectivity). Some of the research implicit in these data, or waiting for further data collection, include studies of sex differences, career choice, the effects of earlier education interventions, matched sample comparison studies of disable and nondisabled (or labeled as such) in childhood, in adolescence, or as an adult.

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Chapter 1

Overview

This report represents the third and final phase of a project, funded by the Office of Special Education of the Department of Education and conducted by the Higher Education Research Institute (HERI), on handicapped students in U.S. colleges and universities. The report from the first phase (Lawrence, Kent, & Henson, 1981) described a national sample of disabled students who had entered college as freshmen in 1978, analyzing them according to their area of disability (speech, orthopedic, visual, hearing, learning, other, multiple, and unknown) and the type of institution in which they initially enrolled (public university, private university, public four-year college, private four-year college, public two-year college, private two-year college) and comparing them with their nondisabled counterparts. The report from the second phase of the project (Henson, Kent & Richardson, 1981) comprised a series of norms tables displaying data on 1978 and 1980 disabled and nondisabled freshmen, for the total groups and separately by sex. Comparisons of these groups can help one to discern trends over time in the characteristics of disabled freshmen, as well as to identify similarities and differences between disabled and nondisabled men and women.

The present report is a longitudinal analysis, based on data from a 1981 follow-up survey of a subsample of the 1978 disabled freshmen. Its purpose is to give some sense of the current status, educational progress, and college experiences of these handicapped individuals, with the hope that this information will prove useful to government and institutional policy makers who are concerned with giving the disabled in our society greater access to and within postsecondary education and with making our academic institutions more

responsive to their needs. Much progress has been made toward these goals in recent years. Section 504 of the Rehabilitation Act of 1973 (Public Law 93-112), which prohibits discrimination against "otherwise qualified" handicapped persons in any program or activity that receives federal funds, has led to the delineation of program requirements--covering admissions and recruitment, treatment of students, academic adjustments, housing, financial aid, employment assistance, and nonacademic services--with which the majority of colleges and universities in this country have made some effort to comply. Moreover, the academic community--students, faculty, and administration--has become more aware of the strengths and aspirations of the disabled and more sensitive to their requirements. Special services and accommodations have been introduced on many campuses. Information has been lacking, however, about the effectiveness of such measures. This report attempts to fill that information gap and to provide some insight into the nature of the attitudinal and behavioral barriers that the disabled may encounter.

The report is divided into four major sections. Section I (Chapters 1-3) is introductory. Chapter 2, "Sample and Methodology," describes the Cooperative Institutional Research Program (CIRP) and its annual freshman survey, the identification of the respondent sample, the follow-up survey instrument, the response rate, and the weighting procedures used. Chapter 3 sketches a general profile of the total respondent group (all of whom were identified as disabled, according to the procedures discussed in Chapter 2), comparing their freshmen characteristics with those of the nondisabled 1978 freshmen and summarizing their responses to the follow-up questionnaire.

Section II (Chapters 4-9) gives a more detailed picture of the 1981 follow-up respondents, comparing them by disability area. For reasons outlined in Chapter 2, the discussion focuses on the five largest (and most statistically reliable) disability groups: those with orthopedic, visual, multiple, hearing, and health-related disabilities. Data on the four remaining disability groups identified in the 1981 follow-up survey (those with learning, speech, emotional, and "other" disabilities) are included in the tables, but these groups are not discussed in the text. Chapter 4 deals with background characteristics: demographic and family background (gender, racial/ethnic identity, age and 1978 enrollment status, 1978 and 1981 religious preference, marital and veteran status) and educational background (type of high school attended, high school grades and program, special interventions in elementary, junior high, and high school). Chapter 5 defines four groups according to 1981 status (continuous persisters, former stopouts, current stopouts, and dropouts); indicates the reasons given for withdrawing from college temporarily or permanently; discusses transfer students and reasons given for changing institutions; and discusses college performance (college class, grades, remediation) and experiences (living arrangements, employment, finances, mentors, and behaviors). Chapter 6 focuses on degree plans, major field, and career choice, with special attention to stability and change over the three-year period between initial assessment and follow-up. Disability-related issues--including age of onset, visibility, effects on college functioning, attitudinal and behavioral barriers, and utilization of services and accommodations--are the subject of Chapter 7. Chapter 8 deals with more personal issues, including political orientation, life goals, self-ratings, and preferred life patterns. Finally, Chapter 9 presents summary profiles of the five main disability groups.

Section III (Chapter 10) presents the results of a series of regression analyses performed to identify the personal and envirnomental factors associated with three outcomes of interest to policy-makers: performance (as measured by college grades), satisfaction with college, and persistence (as measured by current college class and by 1981 enrollment status). The specific college envirnomental factors examined included support services and accommodations, sources of finance, institutional type, and a variety of other experiential variables such as residential arrangements and employment.

The final section (Chapter 11) draws out the policy implications of the study, outlines other areas of needed research, and makes recommendations.

Chapter 2

Sample and Methodology

The analyses presented in this report are based on weighted responses to a follow-up survey conducted in 1981 and completed by 760 disabled participants in the 1978 Cooperative Institutional Research Program (CIRP). This chapter describes the CIRP, the identification of the target respondent sample, the follow-up survey instrument, the response rate to the follow-up survey, and the weighting procedures used in these data analyses. It also briefly discusses the respondent group in terms of their reported disability area(s) in 1978, compared with 1981, as preparation for the discussion and comparisons in Section II of this report.

The CIRP Annual Freshman Survey

Each fall, the Student Information Form (SIF) is administered to the entire entering freshman class at each institution participating in the CIRP. This survey instrument is designed to serve two functions: first, to collect student input data for longitudinal research; and second, to collect descriptive and normative data for the purpose of providing general information to interested persons and agencies.

The results of each annual freshman survey are published in a national norms report. The national norms are based only on data from institutions where the coverage of entering freshmen is judged to be representative. This judgment is based on the proportion of first-time freshmen who completed the SIF and on the procedures used in administering it. Four-year colleges are included in the national norms if over 85 percent of their first-time, full-time freshmen completed the SIF, universities must have over 75 percent participation, and two-year colleges must have at least 50 percent participation. The

data meeting these minimal quality requirements for inclusion in the norms are weighted to represent the population of entering freshmen at all higher educational institutions in the United States.[1]

Part-time students and those who are not first-time college students (i.e., transfers and former enrollees) are excluded from the normative sample. All students who do not identify themselves as being enrolled on a part-time basis are included in the norms sample if they either graduated from high school in the year of the survey or have never attended any collegiate institution for credit.

Identification of the 1978 Respondent Group

Since 1978, the SIF has included two items designed to permit the identification of college freshmen who are disabled, based on self-reports. The first asks participants to answer yes or no to the question, "Do you consider yourself to be physically handicapped?" The second reads, "If yes, what type of handicap do you have? (Mark all that apply)" and lists the following disability areas: hearing, speech, orthopedic, visual, learning, and other.

Responses to these two items are in some instances inconsistent. A number of respondents answer the first item negatively but then mark one or more disability areas. Conversely, some respondents indicate that they consider themselves physically handicapped but then fail to mark a specific disability area. Therefore, for purposes of identifying as large a potential pool of

1. A distinction should be made between higher education and postsecondary education. The normative data exclude students attending most proprietary, special vocational, and semiprofessional institutions; they include those attending two-year colleges with terminal occupational as well as transfer programs.

respondents as possible, all 1978 freshmen who either indicated that they considered themselves physically handicapped or marked a specific disability area (or areas) were defined as disabled, as were all those who did both. Also included in the roster for the follow-up survey were part-time and returning 1978 disabled CIRP participants. In this way, a total of 6,259 disabled 1978 CIRP participants were identified as potential respondents; addresses were available for 5,875. In short, every effort was made to identify as large a group of disabled 1978 students as possible to resurvey in 1981. As a result, the potential follow-up group was larger than that described in an earlier phase of this research effort, which resulted in a report based on weighted responses from 5,401 disabled 1978 freshmen and comparing them with a 15 percent random sample of their nondisabled counterparts (Lawrence, Kent, and Henson, 1981).

The Follow-up Survey Instrument

The final version of the instrument used in the 1981 follow-up survey of 1978 disabled freshmen was developed after a review of the literature on disabled college students and conversations with disabled students at California State University at Northridge and Santa Monica College. The follow-up survey instrument on which most of the analyses in this report are based is included in Appendix A.

A number of items on the 1981 survey were identical to those on the 1978 freshman SIF (Appendix B). This replication of items served two purposes: first, to identify continuities and changes over the three years since these disabled students entered college; and second, to assess the extent to which

their initial expectations and plans had been realized. The items repeated to serve the first purpose include whether students had transferred from one institution to another, the extent of their concern about financing their college education, degree plans and aspirations, political orientation, marital status, choices of major and career, residential plans and preferences, religious preferences, and life goals. The items repeated to serve the second purpose concerned having had remediation or tutoring in selected subject areas and having done (or still expecting to do) a variety of things in college (e.g., getting a job to help pay for college expenses, making at least a "B" average, and feeling satisfied with college).

The follow-up instrument also contained two items which have appeared intermittently on the SIF, but which were not included on the 1978 version. The first asked respondents to rate themselves, compared with the average person of their own age, on a list of 22 traits. The second asked them to indicate which life patterns (marriage, children, and employment) they would prefer ten to fifteen years from now.

Since the SIF is not specifically geared to the disabled college student population, the 1981 follow-up survey instrument asked questions designed to fill some important gaps. For instance, respondents were asked whether they had received special education at different levels of their earlier schooling. To learn more about the nature and extent of their disabilities, two other response options--health-related (e.g., respiratory, heart) and emotional--were added to the original list of six disability areas. Respondents were also asked the age at which their disability was diagnosed and the extent to which their disability affected their functioning at college in five areas: academic,

social, recreational/extracurricular, psychological/emotional, and other.

Two lengthy items on the 1981 follow-up instrument were designed to elicit information about facilitators of and barriers to the disabled student's progress and performance in college. The first of these (#28) listed 29 services, some of which are provided to all students at most colleges (e.g., academic and vocational counseling) and others of which represent special accommodations for the disabled (e.g., registration priority, support service personnel, repair services for assistive devices); respondents were asked to indicate whether they used each service, would have used it if it had been available, ordid not use it because it was irrelevant. The second of these items (#29) asked about the attitudes and behaviors of fellow students, instructors/faculty, and staff toward the disabled student; this item was based on information reported through the American Association for the Advancmnent of Science's Project on the Handicapped in Science (Redden, Davis, & Brown, 1978).

Finally, the 1981 follow-up survey instrument included questions on college behaviors and experiences which have previously been examined in studies of the nondisabled college student population: for example, employment while in college, overall grade-point average, reasons for transferring, stopping out, or dropping out, and income sources.

Response Rate

The 1981 follow-up survey was mailed out in two waves to the roster of 5,875 disabled respondents for whom addresses were available: during the first week of July, and during the second week of September. By the deadline for return of the questionnaire on November 2, 1,464 forms had been returned as

"nondeliverable," thus reducing the potential respondent group to 4,441 disabled 1978 freshmen. Of this group, 1,245 (28 percent) returned usable questionnaires. An additional 57 survey recipients returned uncompleted forms, explaining that they were not handicapped. Moreover, 485 of the 1,245 who completed the follow-up survey said they were not handicapped. Thus, the follow-up survey collected information from 760 disabled persons.

Several explanations may be offered for the inclusion of a large proportion of nondisabled persons on the survey mailing roster. First, about 1,400 of those targeted to be followed up had indicated on the 1978 freshman SIF that they considered themselves physically handicapped but then had failed to specify a disability area. (In the report from Part 1 of this project, this group was treated as having an "unknown" disability.) It seems likely that many of these respondents had simply erred in filling out the freshman questionnaire. Others had indicated on the 1978 freshman SIF that they did not consider themselves physically handicapped but then had checked one of the disability areas. For instance, about three in ten of the sample discussed in the first report said they considered themselves to be visually handicapped, but their profile was virtually identical to that of the nondisabled group; thus, it was surmised that many of the "visually disabled" were not in fact disabled in a clinical or legal sense but simply had less-than-perfect vision that required correction. Similarly, many of those who were identified in the first report as having speech disabilities may have been students who experienced difficulties in speaking English because they came from other language backgrounds (e.g., Hispanics, Asians). Many of the "learning-disabled" may have been freshmen who lacked confidence in their own academic abilities and were worried

that they would not do well in college. All of these possibilities are discussed in the first report (Lawrence, Kent, & Henson, 1981).

The low response rate may in part be attributable to the fact that the follow-up survey was mailed out in the summer, when many potential respondents were not available. Moreover, experience with survey research indicates that individuals who have dropped out of college, or who have completed their planned program, frequently fail to respond to follow-up surveys, in part because their college experiences seem unimportant to them now.

Finally, because of the way in which the SIF is administered, the CIRP probably fails to identify many freshmen who have particular types of handicaps (such as blindness or ataxia) or who are so severely impaired that they have trouble marking a survey for optical scanning. Similarly, some potential follow-up respondents may have been unable to fill out the questionnaire because they lacked necessary aid or because it would have required a substantial investment of time and effort.

Weighting Procedures

The data from respondents were differentially weighted to compensate for differential response rates. Table 1 shows the sample sizes and weights used in generating the data in this report by institutional type and by disability area. The institutional type refers to the institution the student entered in the fall of 1978. The disability area is based on the student's response to the item on the 1978 SIF (see Appendix B).

These weighting procedures produced data that represents the distribution of disabled students in the original sample (as reported in Part 1, Lawrence, Kent, & Henson, 1981), by disability area and by freshman institutional type.

Table 1

1981 Follow-Up Survey Sample and Weights

Stratification Used for Correcting Sample Bias	Number of Respondents	Weight	Weighted Total[a]
Public university:			
Hearing disability	32	2.72	87
Speech disability	4	6.75	27
Orthopedic disability	50	3.44	172
Visual disability	91	5.30	482
Learning disability	5	4.20	21
Other disability	30	4.77	143
Multiple disabilities	11	4.73	52
Unknown disability	48	8.50	408
Private university:			
Hearing disability	17	2.58	44
Speech disability	1	13.00	13
Orthopedic disability	23	3.91	90
Visual disability	29	7.17	208
Learning disability	3	5.00	15
Other disability	11	5.91	65
Multiple disabilities	4	6.25	25
Unknown disability	22	8.32	183
Public four-year college:			
Hearing disability	16	4.38	70
Speech disability	2	11.00	22
Orthopedic disability	32	3.63	116
Visual disability	65	4.75	309
Learning disability	6	3.83	23
Other disability	24	4.83	116
Multiple disabilities	13	2.62	34
Unknown disability	39	7.15	279

Table 1--Concluded

Stratification Used for Correcting Sample Bias	Number of Respondents	Weight	Weighted Total[a]
Private four-year college:			
Hearing disability	59	2.81	166
Speech disability	9	4.45	40
Orthopedic disability	77	3.88	299
Visual disability	119	5.70	679
Learning disability	18	4.17	75
Other disability	75	3.80	285
Multiple disabilities	34	3.18	108
Unknown disability	55	9.35	514
Public two-year college:			
Hearing disability	22	3.23	71
Speech disability	3	6.33	19
Orthopedic disability	38	4.11	156
Visual disability	38	5.50	209
Learning disability	6	5.83	35
Other disability	28	5.29	148
Multiple disabilities	9	5.11	46
Unknown disability	20	8.85	177
Private two-year college:			
Hearing disability	3	6.00	18
Speech disability	0	---	0
Orthopedic disability	8	3.13	25
Visual disability	6	9.67	58
Learning disability	3	5.33	16
Other disability	6	6.00	36
Multiple disabilities	2	8.00	16
Unknown disabilities	6	8.67	52

[a]The weighted total is the produce of the number of respondents and the weight.

About the Respondent Sample and the Subsequent Analyses

A comprehensive picture of the disabled respondents follows in Chapter 3, which summarizes findings for the total group, and in Section II of this report, which discusses the data by disability area.

Table 2 compares the disability area marked by the respondents in 1978 with the disability area marked on the follow-up questionnaire in 1981. The addition of two categories (health-related and emotional) to the 1978 list of six response options (hearing, speech, orthopedic, visual, learning, and other) resulted in the reclassification of some individuals. Thus, if we exclude the speech-impaired group because of its small size (84 individuals) and the multiply disabled because they marked more than one disability area in 1978 or in 1981 or at both times, we find that the most reliable self-reports (in the sense that they marked the same category in 1978 and in 1981) came from the hearing-impaired group (87 percent), followed by the visually impaired (84 percent), and those with orthopedic impairments (72 percent). Lowest reliability rates were found for the learning-disabled (69 percent) and those with "other" disabilities (53 percent).

A substantial 622 respondents indicated they have more than one disability and thus were grouped together as being multiply handicapped. Table 3 shows the proportions marking each specific disability area. The largest proportion marked "visual" (39 percent) or "orthopedic" (38 percent) as one of their areas of impairment.

Perhaps the most important point to emerge from these data is the difficulty of determining the incidence or nature of disability/handicap in a consistent manner. Therefore, when data are analyzed by disability area of the

Table 2

Reliability of Self-Reports of Disability Area(s)
(percentages; N in parentheses)

1978 Disability Area	1981 Disability Area									
	Orthopedic	Visual	Multiple[a]	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Orthopedic	72 (539)	0 (4)	18 (113)	0	2 (8)	14 (41)	0	0	0	21
Visual	3 (21)	84 (569)	10 (65)	1 (5)	13 (42)	18 (50)	16 (26)	6 (5)	34 (11)	24
Multiple[a]	3 (24)	2 (11)	23 (143)	8 (39)	2 (8)	3 (8)	2 (3)	0	15 (5)	7
Hearing	0 (3)	0	12 (76)	87 (339)	0	2 (6)	0	0	0	13
Other	17 (129)	2 (13)	18 (114)	0	68 (225)	53 (149)	2 (4)	0	29 (10)	19
Learning	0	0	6 (40)	0	0	2 (4)	69 (115)	0	0	5
Speech	0	0	2 (13)	0	0	0	0	94 (79)	0	3
Unknown[b]	5 (35)	12 (79)	9 (58)	5 (18)	15 (49)	9 (25)	11 (19)	0	21 (7)	8
N	750	677	622	392	331	283	166	84	33	3,338

[a]Respondents marking more than one disability area.

[b]Respondents indicating handicap but not specifying area (1978 SIF).

Table 3

Number and Proportion of Multiply Handicapped
1981 Follow-Up Respondents
Indicating Each Disability Area

(N=622)

Disability Area	N	%
Visual	244	39
Orthopedic	239	38
Hearing	208	33
Health-related	208	33
Speech	175	28
Learning	174	28
Emotional	157	25
Other	142	23

1981 respondents who entered college in 1978, the discussion will be restricted to the largest and most reliable categories: the orthopedically, visually, and hearing-impaired, those with multiple disabilities, and those with health-related disabilities (68 percent of whom marked the "other" response option in 1978). Thus, those respondents who indicated in 1981 that they had "other" or learning disabilities are excluded, as are those with speech and emotional disabilities (because of the small size of these groups).

Chapter 3

Summary Profile of the Total Respondent Group

This chapter summarizes the major findings for the total group of disabled college students who were surveyed in 1978 by the Cooperative Institutional Research Program in its annual freshman survey and were followed up by questionnaire in 1981. Eighty-six percent of the 3,338 respondents described in this report were first-time, full-time freshmen in 1978. Twelve percent held advanced standing when they answered the SIF in 1978, and 1 percent were freshmen enrolled for part-time study. All respondents, however, entered colleges and universities where the response rates were judged to be representative.

Few data are presented here in tabular form. Rather, the percentage responses are shown in Appendix C for the nondisabled respondents to the 1978 SIF survey, in Appendix D for the disabled respondents to the 1978 SIF survey, and in Appendix E for the disabled respondents to the 1981 follow-up survey.

This chapter is divided into four sections. The first reviews information about the backgrounds of the 3,338 disabled 1978 freshmen who are the focus of this report. The second uses data from the 1981 follow-up survey to update their college status. The third section covers follow-up survey items that addressed disability. The final section summarizes data of a more personal nature, including self-ratings, life goals, and preferred life patterns.

Although this summary does not discuss every item on the 1978 or 1981 surveys, it offers a general profile of the disabled three years after entering college and thus provides a useful frame of reference for the major analyses in this report, which compare and describe the disabled according to their area of impairment.

Background Characteristics

This section describes the demographic characteristics and family backgrounds of the total disabled group; their high school backgrounds and performance; their earlier educational programs with respect to special education interventions; their college choices and living arrangements; and their degree, major, and career aspirations as freshmen and three years later.

Demographic Characteristics and Family Background (1978 SIF: sex #1; race #21; age #3; parental income #30; marital status #20; veteran status #2. 1981 follow-up survey: marital status #33; children #34).[1] Information regarding the demographic characteristics and family backgrounds of the total 1981 respondent group comes primarily from the 1978 SIF.

There were more women (53 percent) than men (47 percent). The majority of respondents were white (87 percent): came from middle or upper-middle-class homes (49 percent estimated their parents' 1977 income to be between $12,500 and $29,999); were of traditional college age (86 percent were 22 years old or younger wnen resurveyed in 1981); were single when they entered college (94 percent) and remained so three years later (89 percent). By 1981, only 7 percent had children.

On the other hand, it should be noted that slightly larger proportions of the disabled than of their 1978 nondisabled counterparts were "nontraditional" college students. For instance, slightly more came from low-income homes (31 percent of the disabled, compared with 24 percent of the nondisabled, estimated their parents' 1977 income to be $12,499 or less). And probably because the disabled tended to be slightly older when they entered college (61 percent of the disabled were 17-18 years old in 1978, compared with 79 percent of the

1. Parenthetical material indicates the content and item number and the questionnaire form (1978 SIF or 1981 follow-up survey).

nondisabled), more were married at college entry (6 percent of the disabled; 1 percent of the nondisabled). The disabled were also more likely to be veterans of military service (4 percent, compared with 1 percent of the nondisabled).

Sex differences among the follow-up respondents are in expected directions. A larger proportion of men (17 percent) than of women (12 percent) were age 23 or older in 1981, but slightly more women (10 percent) than men (7 percent) were married. The proportions of men and women with children were about equal (7 percent of the men, 8 percent of the women), but the women were more likely to have only one child, and the men to have two or more children.

High School Background and Performance (1978 SIF: college track #5; high school GPA #6; high school rank #23; adequacy of preparation in high school in selected subjects #7. 1981 follow-up survey: control of high school #4). The majority of disabled respondents described in this study (86 percent) took college preparatory programs in high school. More than one-fourth (27 percent, compared with 23 percent of the nondisabled) earned A grade averages in high school, and over half (52 percent, compared with 46 percent of the nondisabled) ranked in the top quarter of their high school graduating class. These differences are consistent with the larger proportion of women among the respondents to the 1981 follow-up questionnaire. Further, their outstanding high school records are consistent with their assessments of the adequacy of their high school preparation in academic subjects (see #7 in Appendices C and D). For instance, 35 percent felt "very well" prepared and 53 percent felt "fairly well" prepared in science when surveyed in 1978.

One item not included on the 1978 version of the SIF (#4 on the 1981 follow-up survey) was the type of high school attended. The majority of disabled respondents (79 percent) attended public high schools; 15 percent

attended religious high schools; and 6 percent attended private nondenominational high schools. By way of comparison, 86 percent of all first-time, full-time freshmen in 1979 attended public high schools, 11 percent attended religious high schools, and 3 percent attended private nondenominational high schools (Astin, King, & Richardson, 1979). Thus, we can infer that the disabled are somewhat more likely than are students-in-general to attend private high schools.

Earlier Educational Preparation and Background (1978 SIF: remediation taken in high school #11; 1981 follow-up survey: educational program #5 and #5b). The 1978 SIF asked freshmen to indicate if they had had tutoring or remediation in each of six subject areas (English, reading, mathematics, social studies, science and foreign language) during high school. In all subjects listed, slightly more disabled (8-14 percent) than nondisabled (6-10 percent) had remediation or tutoring.

To learn more about the earlier educational interventions for the disabled, the 1981 follow-up survey (#5a) asked respondents to indicate what type of educational program they had taken at the elementary, junior high school, high school, and college levels. The response options covered the continuum of services offered to the handicapped: regular academic program with nondisabled peers (often called "mainstreaming"); regular academic program with special classes or services as needed (often called a "resource" intervention); regular school but segregated in special academic classes (often called a "self-contained" program); special school for the disabled; and "other" program. The majority of follow-up respondents had been "mainstreamed" in elementary school (82 percent), junior high school (80 percent), high school (78 percent) and college (83 percent) for their academic classes. The next most common type of interven-

tion experienced by the disabled was resource help (i.e., taking regular academic classes but receiving special classes or services as needed). Interestingly, the proportions receiving resource help increased steadily over time, with 8 percent reporting this intervention in elementary school, 10 percent in junior high, 12 percent in high school, and 13 percent in college. Thus, relatively few were either segregated in special academic classes (5 percent in elementary school, 6 percent in junior high school, 8 percent in high school) or enrolled in a special school for the disabled (4 percent in elementary school, 3 percent in junior high school, and only 1 percent in high school).

Similarly, the majority of follow-up respondents (83 percent) had been enrolled in regular gym classes throughout their educational careers (# 5b); 4 percent had taken adaptive physical education in elementary school, 6 percent in junior high school; 9 percent in high school; and 8 percent in college.

Level and Control of Freshman Institution, College Choice, and Residence (1978 SIF: college choice #14; reasons for going to college #27; reasons for choosing freshman institution #33; planned freshman residence #13. 1981 follow-up survey: college residence most of the time #15; college roommates most of the time #16). Table 4 shows the distributions of nondisabled 1978 freshmen and of 1981 follow-up respondents among different types of higher education institutions. Consistent with the outstanding high school records of the follow-up group, they were underrepresented among entrants to public two-year colleges and public four-year colleges, whereas they were overrepresented among entrants to private four-year colleges and, to a lesser extent, private universities. Like their nondisabled counterparts, more than three-fourths (78 percent) said their freshman institution was their first-choice college.

Table 4

Institutional Distribution of Nondisabled and Disabled 1978 Freshmen (percentages)

Level and Control of Institution	Nondisabled	Disabled
University:		
Public	19	18
Private	6	9
Four-year college:		
Public	22	16
Private	17	38
Two-year college:		
Public	34	16
Private	4	3
N	1,626,569	3,338

The reasons cited as very important in 1978 for going to college (#27) and for choosing their particular college (#33) were similar for nondisabled 1978 freshmen and for 1981 follow-up respondents. Thus, the most common reasons for going to college were to be able to get a better job (cited by 74-75 percent), to learn more about things that interest them (73-76 percent), and to gain a general education and appreciation of ideas (68-71 percent). However, consistent with their overrepresentation at private four-year colleges, the follow-up respondents were more likely than were the nondisabled 1978 freshmen to say that they had chosen their particular college because of its good academic reputation (62 percent of the disabled, 50 percent of the non-disabled) and that they were attending college to prepare for graduate or professional school (48 percent of the disabled, 44 percent of the nondisabled). Conversely, they were less likely to cite being able to make more money (50 percent of the disabled, 61 percent of the nondisbled) as a very important consideration in going to college.

Clearly reflecting the residential nature of the colleges in which they had enrolled in 1978, two-thirds of the 1981 follow-up respondents (compared with 56 percent of the nondisabled 1978 freshmen) had planned to spend their freshman year in a college dormitory; one-fourth had expected to live with their parents or with relatives. The actual college residence of the follow-up respondents tended to be consistent with their plans. Almost three in five (58 percent) lived in on-campus housing, and 35 percent lived in private housing. The greatest proportion (59 percent) lived with nondisabled rommmates most of the time they were in college, 24 percent lived with parents or relatives, 10 percent lived alone, 4 percent lived with spouse, and only 2 percent lived with disabled roommates.

1978 Degree Aspirations, Planned Major, and Career Choice (1978 SIF: highest degree planned #25; probable major field #36; career choice #32). Not unexpectedly in light of their academic backgrounds, and the types of colleges they attended, the degree aspirations of the disabled respondent group described in this study were high, and their freshman choices of major field and career were relatively prestigious. At college entry, only 36 percent aimed no higher than a baccalaureate (compared with 48 percent of the 1978 nondisabled freshmen); three in ten (31 percent) aspired to a master's; 12 percent planned to earn a doctorate, 10 percent a medical degree, and 5 percent a low degree.

As Table 5 shows, business was the most popular planned major among the disabled (15 percent), though considerably less so than among the nondisabled (24 percent). Other relatively popular freshman choices of major field among the 1981 follow-up respondents were the health professions (11 percent), engineering (10 percent), and education (8 percent). The disabled were more likely than the nondisabled to plan on majoring in fine arts (8 percent, compared with 5 percent of the nondisabled), and the social sciences (8 percent, compared with 5 percent of the nondisabled).

Freshman career choices were generally consistent with anticipated major (Table 6), with business again being the most popular choice among the disabled (15 percent) but less so than among the nondisabled (19 percent). A larger proportion of the disabled than of the nondisabled planned to become physicians, high school teachers, and artists.

The stability of these degree aspirations and major field and career choices over time is discussed in Chapter 6.

Table 5

Intended Major Fields of 1978 Nondisabled and Disabled Freshmen (percentages)

Major[a]	Nondisabled	Disabled
Agriculture	4	2
Biological sciences	4	6
Business	24	15
Education	8	8
Engineering	10	10
English	1	2
Health professions	10	11
History, political science	3	5
Humanities (other)	2	3
Fine arts	5	8
Mathematics and statistics	1	2
Physical sciences	2	3
Social sciences	5	8
Other technical	8	5
Other nontechnical	8	8
Undecided	5	3
N	1,481,030	3,060

[a]See Appendix F for the derivation of these categories

College Status Update

Based on the 1981 follow-up survey, this section provides information about the actual experiences of the disabled in the three years since they participated in the SIF. The specific topics highlighted here include persistence and transfer, college grades, employment, finances, and such experiences as joining clubs and changing majors or career choices.

Enrollment Status and Progress (1981 follow-up survey: enrollment status #1; full-time/part-time #9; college class #7; number of colleges attended #8a). The majority of respondents were persisters: Two-thirds (67 percent) reported that, as of the late summer of 1981, they were currently enrolled in college and had been since 1978. One-tenth reported they had stopped out of college for a time but were enrolled again; 15 percent had withdrawn from college but planned to return soon; and only 8 percent said they had withdrawn from college permanently.

Consistent with the high proportion of persisters in this group, nine in ten had been enrolled full time while in college, with 48 percent being seniors, 28 percent being juniors, and 12 percent being sophomores. About seven in ten (72 percent) had attended only one institution. As noted in Chapter 2, the survey sample was not limited exclusively to those who were first-time, full-time freshmen in 1978.

Reasons given for stopping out or dropping out permanently are discussed in Chapter 5.

College Achievement and Experiences (1981 follow-up survey: college GPA #12; college employment #10; tutoring or remedial work taken in college #17; mentor #19. 1978 SIF: anticipated need for remediation in college #11). The reported college grade averages of the disabled were good: Only 31 percent

Table 6

Career Choices of 1978 Nondisabled and Disabled Freshmen
(percentages)

Career Choice[a]	Nondisabled	Disabled
Artist	6	8
Business	19	15
Clergy	0	1
College teacher	0	1
Doctor	4	7
Education (secondary)	2	4
Elementary teacher	4	4
Engineer	9	10
Farmer-rancher	3	1
Health professional	7	8
Lawyer	4	5
Nurse	4	4
Research scientist	2	3
Other	24	20
Undecided	11	10
N	1,498,640	3,060

[a]See Appendix F for the derivation of these categories

said their overall GPA was C+ or below. Five percent reported that their college grades averaged A or A+, 11 percent reported A- averages, 14 percent reported B+ averages, 16 percent said their college grade average was B, and 23 percent had B- averages.

Most of the follow-up respondents had been employed at outside jobs while in college, with the largest proportion (27 percent) working in off-campus, part-time jobs, 21 percent working part time in on-campus jobs, and only 8 percent working full time either on or off campus. Fewer than half (45 percent) said they had not been employed while in college.

One item (#3) on the 1981 follow-up survey partially repeated a list of anticipated behaviors from the 1978 SIF (#38), asking respondents to indicate which they actually did while in college. Table 7 compares the proportions who, in 1978, estimated that there was a "very good" chance they would have a given experience with the proportion who, in 1981, reported actually having the experience. In most cases, expectation fell short of actuality. Respondents were best at predicting satisfaction with college: 56 percent expected to feel satisfied, and 67 percent actually felt satisfied with college. On the other hand, while only 11-12 percent expected to change either major fields or career choices, about one-third had done so by three years later. Only 2 percent thought they had a very good chance of failing one or more courses, but 32 percent ultimately did so.

The 1978 SIF asked respondents to indicate subject areas in which they felt they would need extra tutoring or remediation (#11), and the follow-up survey asked them to indicate the subject areas in which they had remedial work in college (#17). Substantial proportions of the disabled 1978 freshmen (15-29 percent) felt they would need special tutoring work in all subjects listed

Table 7

Anticipated and Actual College Behaviors, 1978 and 1981

(percentages)

Behavior	Anticipated[a] 1978	Actual 1981
Change major field	12	35
Change career choice	11	33
Fail one or more courses	2	32
Hold elective student office	3	14
Serve on a campus committee	--[b]	29
Get a job to help pay for college expenses	36	54
Join a social fraternity, sorority, or club	18	31
Make at least a "B" average	38	58
Participate in protests or demonstrations	4	11
Feel satisfied with college	56	67

[a]Percentage estimating there was a "very good chance."

[b]Not included on 1978 Student Information Form.

except social studies, but in 1981, 73 percent of the disabled group described in this study said they had not had remediation or tutoring in any subject. The largest proportions had extra help in mathematics (13 percent) or writing/composition (11 percent). Only 6 percent or less had remediation or tutoring in the remaining subjects listed: reading, science, foreign language, social studies, and "other."

Finally, about three in five follow-up respondents said there was one person "whose support, encouragement, guidance, or confidence" in them was central to their success in college (#19). One-fifth said this particular person was a family member. Otherwise, the mentor was likely to come from the college environment: 12 percent mentioned a college professor or teacher, and 11 percent cited a college friend. Half the mentors were men and half were women; the vast majority (93 percent), were not disabled and three-fifths were age 30 or older.

College Finances (1981 follow-up survey: income sources #37; current income #38; extent of financial concern about college expenses #11; extent of concern about disability-related expenses #24. 1978 SIF: extent of financial concern about college expenses #28). Since most of the disabled persons described in this study are still in college, their financial situation is probably fairly typical of all college students. Most depend chiefly on their families or themselves: Thus, 50 percent indicated that "parents, relatives, inheritance, etc." was a major source of income, and 50 percent cited "earnings from employment, savings, etc." as a major income source. Over half (53 percent) said their annual income was below $5,000; 19 percent had incomes of $5,000-9,999 per year; about one in ten said they had no income; another 10 percent had an income of $10,000-19,999 per year; and only 5 percent reported an annual income of $20,000 or more.

Considering the rather small annual incomes reported by the majority of these disabled respondents, it is not surprising that, in 1981, 46 percent said they felt major concern about their ability to pay for college in 1978, only 19 percent had expressed major concern. In addition, 14 percent of the follow-up respondents felt very much concerned, and 31 percent felt somewhat concerned, about expenses associated with their disability while they attended college.

Disability-Related Concerns

A group of items on the 1981 follow-up survey were designed to elicit information about how the disabled experience college in relation to being handicapped. More particularly, we wanted to know what support services and accommodations they used or felt the need for in college and how they perceived the attitudes and behaviors of others (e.g., faculty, students). Highlights from these items for the total group are summarized below, with greater elaboration according to disability area presented in Chapters 7 and 9.

Nature and Effects of Disability (1981 follow-up survey: disability area #20; extent to which particular disability affects college functioning #21; age of onset of disability #22; visibility of handicap #23; accessibility of college community facilities, activities #25; extent to which disability affects experiences in particular areas of college life #27).

The weighted group of 3,338 follow-up respondents described in this study were distributed according to their area of impairment as follows:

Orthopedic	22 percent
Visual	20 percent
Multiple	19 percent
Hearing	12 percent
Health-related	10 percent
Other	8 percent
Learning	5 percent
Speech	2 percent
Emotional	1 percent

Differences in the size of the various disability groups should be kept in mind in interpreting the following results. Most likely to say that their disability affected their college functioning "very much" (#21) were the emotionally handicapped (62 percent), followed by the learning-disabled (46 percent) and the speech-impaired (28 percent). Fewer than one-fifth of those respondents with visual, hearing, orthopedic, or health-related disabilities felt their functioning was very much affected, and three-fifths of those with "other" disabilities said their college functioning was "not at all" affected.

A large proportion of these respondents had been disabled since birth or early childhood, with 11 percent saying their disabilities were diagnosed prenatally or at birth, and 27 percent before age 5. Twenty-seven percent became handicapped between ages 6-12; 22 percent during adolescence (ages 13-17); and 15 percent were adults (age 18 or older) when their disabilities were diagnosed. Only 18 percent regarded their disability as visible or clearly apparent to others. Most respondents (53 percent) felt their disability was sometimes apparent and sometimes not obvious, and about three in ten (29 percent) considered their disability to be hidden or not obvious to others. Only 3 percent felt that the facilities and activities of their college community were inaccessible to them, but 22 percent felt that their disabilities "very much" affected their recreational and extracurricular experiences at college. This proportion was about twice as large as the proportion saying that their disabilities "very much" affected their academic experiences (12 percent), their social experiences (12 percent) or their psychological and emotional experiences (11 percent).

Accommodations and Barriers (1981 follow-up survey: utilization, availability, and relevance of support services and accommodations at college #28;

experience with barriers #29). One item (#28) on the 1981 follow-up survey listed 29 support services or accommodations and asked respondents to indicate for each whether they had used the service, whether they would have used it if it had been available, or whether they did not use it because it was not relevant to them. In most cases, the largest proportions of respondents checked the last of these alternatives. The services most frequently used were those designed for and used by students-in-general; thus, 56 percent of the follow-up respondents used financial aid for college expenses, 5 percent utilized academic advising; 48 percent used campus orientation; and 44 percent participated in nondisabled student organizations and clubs.

On the other hand, some respondents did use services and accommodations specifically designed for the handicapped; thus, 11 percent used adaptive architectural accommodations; 12 percent used adaptive equipment and assistive devices such as tape recorders and braille; and 12 percent utilized financial aid for disability-related expenses. Moreover, some respondents indicated that they would have used particular services if they had been available; examples include instructional accommodations (10 percent), time accommodations (11 percent), performance evaluation accommodations (11 percent), adaptive physical education (13 percent), disabled student organizations and clubs (11 percent), disabled student office or advocate (12 percent), and registration priority (14 percent). Relatively few, however, expressed an unmet need for adaptive architectural accommodations (2 percent), adaptive equipment and assistive devices (5 percent), or support service personnel (5 percent). One conclusion to be drawn from these findings is that most colleges and universities are substantially in compliance with Public Law 93-112 (Section 504 of the Rehabilitation Act of 1973). Another conclusion is that some accommodations that might

benefit disabled students (e.g., time and instructional accommodations, disabled student clubs) could be introduced at relatively little cost to the institution.

Another item (#29) listed 20 items relating to the attitudes and behavior of faculty, staff, and students that might be regarded as barriers to the disabled. Respondents were asked to indicate whether they had experienced these barriers frequently, occasionally, or seldom or never. A large proportion of the total disabled group indicated that they encountered such barriers infrequently or never. The only exceptions to this generalization is that 36 percent of the follow-up respondents checked "frequently" for the statement "I can handle risk better and am more independent than most people realize" and 16 percent indicated that people frequently assume, because of their disability, that they are limited in what they can do physically.

Personal Issues

This final section covers follow-up survey items that are personal rather than related directly to college experiences: self-ratings, life goals, and preferred life patterns.

Self-Ratings (1981 follow-up survey #30). In some years, CIRP freshman participants are asked to rate themselves "compared with the average person of your own age" on each of a list of about 20 traits. Unfortunately, the 1978 SIF did not contain this item; however, it was included on the 1981 follow-up survey, with the response options being "above average," "average," and "below average."

The results indicate that the self-esteem of disabled respondents is healthy. For instance, 64 percent rated themselves above average on understanding of others; 56 percent, on drive to achieve; 53 percent, on academic

ability; 51 percent, on sense of humor; 44 percent, on intellectual self-confidence; 43 percent, on originality; 39 percent, on leadership abiltiy, writing ability, and stubbornness. They were most likely to regard themselves as below average on athletic ability (40 percent).

Life Goals (1981 follow-up survey #31). The life goals most likely to be regarded as essential by respondents to the follow-up survey were helping others who are in difficulty (42 percent), developing a meaningful philosophy of life (42 percent), raising a family (36 percent), and becoming an authority in their field (32 percent). The life goals most likely to be regarded as not important were becoming accomplished in a performing art (75 percent), writing original works (65 percent), creating artistic work (63 percent), and influencing the political structure (63 percent). Thus, the disabled seem to be altruistic and concerned with personal development but relatively uninterested in artistic pursuits. (Stability and change over time in life goals, as indicated by comparisons of 1978 and 1981 responses, are discussed in Chapter 8 of this report.)

Preferred Life Patterns Ten to Fifteen Years from Now (1981 follow-up survey: #39). The overwhelming majority of follow-up respondents (87 percent) want to be married, while 6 percent would prefer to be single, and 6 percent would prefer living with a person of the opposite sex but not married. Only 16 percent did not want children; about half (48 percent) wanted two children. Finally, about four in five (79 percent) wanted a full-time career, while 19 percent would prefer to be employed part time.

Chapter 4

Background Differences by Disability Area

This chapter points out some of the distinctive characteristics of the follow-up respondent group according to disablity area. It covers demographic and family background and educational background, including the nature of special interventions (e.g., resouce help in academics) that the respondents may or may have experienced prior to college. Most of the tables show data for all groups, including those with learning, speech, emotional, and "other" handicaps. However, text descriptions focus primarily on the less ambiguous and largest groups: those with orthopedic, visual, multiple, hearing, or health-related disabilities.

Demographic and Family Background

The distribution of disabled 1978 freshmen surveyed three years later as regards gender, race, age, marital status, religious preference, and veteran status are discussed below. Although women slightly outnumber men in the total group and although the majority of respondents in every disability area are white, age 22 or younger, single and childless, nonveterans, and either Protestant (38 percent) or Roman Catholic (30 percent), there were some notable differences in these respects among the groups.

Gender Composition (Table 8). Women constitute 53 percent of the total respondent follow-up sample; they were also in the majority among those with orthopedic disabilities (58 percent), multiple handicaps (58 percent), hearing impairments (56 percent), and health-related disabilities (52 percent). Only among the visually impaired did men constitute the majority (53 percent).

Table 8

Distribution of 1981 Follow-Up Respondents by Disability Area, and Gender Composition of Each Disability Group

Disability Area	Percentage of Total Sample	Percentage Men	Percentage Women	N
Orthopedic	22	42	58	750
Visual	20	53	47	677
Multiple	19	42	58	622
Hearing	12	44	56	392
Health-related	10	48	52	331
Other	8	57	43	283
Learning	5	38	62	166
Speech	2	81	19	84
Emotional	1	27	73	33
Total	100	47	53	3,338

Racial/Ethnic Identity (Tables 9, 10). Whites predominated in all five of the major disability groups; the largest proportion of minorities was found among those with multiple handicaps (19 percent), and the smallest proportion among those with health-related disabilities (6 percent) (Table 9). It is worth pointing out that the racial/ethnic composition of the four disability groups not explicitly discussed in this report suggests that, for many, their self-reported handicapped status reflects language or culture differences. For instance, 12 percent of the learning-disabled were Blacks; 16 percent of the speech-impaired were Asians; and 17 percent of the emotionally handicapped were Hispanics. The inflated proportions in these last two categories also result in part from the small (nonweighted) number of respondents in these subgroups.

Table 10 shows the incidence of each category of disability within each of the five racial/ethnic groups defined by the survey. Since the great majority (87 percent) of the follow-up respondents were white, it is not surprising that the distribution for Whites resembles that for the total sample. Blacks were more likely than average to have visual and multiple disabilities but less likely to be orthopedically handicapped. A larger-than-average proportion of Hispanic respondents had health-related and orthopedic disabilities, but relatively few had visual disabilities. Orientals were more likely than average to have visual disabilities but less likely to have hearing impairments. About three in ten of those from "other" racial/ethnic backgrounds (compared with 19 percent of the total sample) had multiple handicaps. Virtually none of the Orientals or "others" in the follow-up sample had health-related disabilities.

Table 9

Racial/Ethnic Identity on 1981 Follow-up Respondents
(percentages)

Racial/Ethnic Identity	1981 Disability Area									
	Orthopedic	Visual	Multiple[a]	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
White	91	86	81	89	94	83	88	74	83	87
Black/Negro/Afro-American	5	9	12	6	5	11	12	5	0	8
Hispanic[a]	1	1	1	1	2	0	0	0	17	1
Asian[b]	1	2	2	1	0	1	0	16	0	2
Other[c]	3	3	4	3	0	5	0	5	0	3
N	739	677	617	392	327	275	162	84	33	3,306

[a]Includes Mexican-Americans/Chicanos and Puerto Ricans but not other hispanic groups such as Cubans

[b]Includes Pacific Islanders

[c]Includes American Indians and "others"

Table 10

Proportion of Each Racial/Ethnic Group in Each Disability Area, 1981

Disability Area	Racial/Ethnic Group					
	White	Black	Hispanic[a]	Oriental[b]	Other[c]	Total
Orthopedic	23	13	25	15	21	22
Visual	20	24	16	22	20	20
Multiple	17	28	15	24	29	19
Hearing	12	10	9	6	12	12
Health-related	11	6	16	0	0	10
Other	8	11	0	8	15	8
Learning	5	7	0	0	0	5
Speech	2	2	0	26	5	2
Emotional	1	0	19	0	0	1
N	2,865	269	30	50	93	3,306

[a]Includes Mexican-Americans/Chicanos and Puerto Ricans but not other Hispanic groups such as Cubans.

[b]Includes Pacific Islanders.

[c]Includes American Indians and "others."

Age and 1978 Enrollment Status (Tables 11, 12). Although 86 percent of the total group was age 22 or younger in 1981, the disability categories with the highest proportions in this traditional undergraduate age group were the hearing-impaired (95 percent), those with health-related disabilities (91 percent), and those with visual handicaps (90 percent). Nearly one-fourth of respondents with multiple handicaps (23 percent), and nearly one-fifth of the orthopedically disabled (18 percent) were age 23 or older at the time of the follow-up survey.

As Table 12 shows, the age distributions of the orthopedically and the multiply handicapped were consistent with their enrollment status in 1978: 16 percent in each category were not freshmen (i.e., had earned prior college credits) when they completed the CIRP freshmen survey.

Marital Status and Children (Tables 13, 14). Whereas only 5 percent of the total disabled group described here were married when they entered college in 1978, about one in ten respondents was married by 1981 (Table 13). The proportions who were married and had children (Table 14) correspond to the age distributions of particular disability groups. Thus, more respondents in the younger groups were single (88-92 percent of those with visual, hearing, and health-related disabilities) and had no children (95-96 percent of the groups). That the orthopedically and the multiply handicapped were more likely to be married and to have children is attributable not only to the large proportion of older respondents in these categories but also to the preponderance of women, who outnumbered men by about three to two.

The othopedically and the multiply handicapped were also distinguished from the other three groups by including larger proportions (4-5 percent) who were separated, divorced, or widowed. The two groups differed, however, in

Table 11

Age of Follow-Up Respondents as of December 31, 1980, by Disability Area
(percentages)

Age	1981 Disability Area									
	Orthopedic	Visual	Multiple[a]	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
22 years or younger	82	90	77	95	91	82	89	100	63	86
23-29 years	7	8	13	3	4	10	11	0	15	8
30 years or older	11	2	10	2	5	8	0	0	21	6
N	747	677	622	389	331	283	166	84	33	3,331

Table 12

1978 Enrollment Status of 1981 Follow-up Respondnets
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
First-time, full-time	82	91	83	86	90	85	92	100	85	86
First-time, part-time	2	0	0	5	0	0	2	0	0	1
Nonfreshman	16	9	16	9	10	15	6	0	15	12
N	750	677	622	392	331	283	166	84	33	3,338

Table 13

Marital Status of 1981 Follow-Up Respondents, by Disability Area
(percentages)

Marital Status	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Single	84	92	86	92	88	90	100	95	79	89
Married	12	7	9	7	12	7	0	5	21	9
Separated, widowed, divorced	4	1	5	1	0	3	0	0	0	2
N	747	672	622	389	326	283	156	84	33	3,311

Table 14

Number of Children of 1981 Follow-Up Respondents, by Disability Area
(percentages)

No. of Children	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
No children	88	95	88	96	95	94	100	95	79	92
One child	3	3	6	4	2	3	0	5	0	3
More than one child	10	2	6	0	3	3	0	0	21	5
N	747	672	622	389	331	283	162	84	33	3,322

that 10 percent of the orthopedically handicapped, but only 6 percent of the multiply handicapped (and no more than 3 percent of the other three groups) had more than one child. In short, slightly more of the orthopedically and the multiply impaired face demands and realities in their home lives not typical of undergraduates.

Religious Preference (Table 15). Religious preferences changed over the three years between the freshmen survey and the follow-up. Though Protestants were still in the majority, their proportion of the total group declined from 49 percent in 1978 to 38 percent in 1981. Similarly, the proportion of Catholics dropped slightly (from 32 to 30 percent). The proportion of Jews, however, remained stable. The greatest gains were registered for the "other" option: from 6 percent in 1978 to 14 percent in 1981. Those saying they had no religious preference increased slightly (from 8 percent to 9 percent). Finally, 5 percent of the 1981 follow-up respondents said they were undecided as to religious preference, a response option not included on the 1978 SIF. In 1978, one-third of the total group considered themselves to be "reborn Christians;" in 1981, only 26 percent said they were "born-again Christians." The change in terminology may partially account for this difference.

As shown in Table 15, the five major disability groups differed slightly in their religious preferences. For instance, larger-than-average proportions of respondents with health-related and orthopedic handicaps were Protestant (45-46 percent), while the multiply disabled were most likely to consider themselves to be born-again Christians (32 percent). It is possible that such differences between groups correspond to their racial/ethnic distributions. The health-related and orthopedic disability groups had the largest proportion of Whites, while the multiply handicapped category had the largest proportion of Blacks.

Table 15

1981 Religious Preference of Follow-Up Respondents, by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Protestant	45	33	35	40	46	37	42	21	0	38
Roman Catholic	21	29	31	38	38	24	24	34	89	30
Jewish	6	4	3	5	0	0	11	8	0	4
Other	15	16	17	9	6	15	16	6	11	14
Undecided	7	6	5	1	7	7	0	0	0	5
None	7	12	8	7	3	17	7	31	0	9
N	747	672	622	389	331	278	166	84	33	3,321
Do you consider yourself a Born-again Christian?										
Yes	28	22	32	21	20	27	20	32	27	26
No	72	78	68	79	80	73	80	68	73	74
N	728	677	614	383	331	283	162	84	33	3,294

Veteran Status (Table 16). Only 4 percent of all 1981 respondents were veterans. Of the veteran group, 34 percent had orthopedic handicaps and 29 percent had multiple disabilities. These figures are not surprising, in view of the nature of the disabilities one may acquire in military service. Moreover, these two disability groups included a higher proportion of older students.

Educational Background

The literature on college students attests to the importance of earlier education experiences in determining later outcomes. For instance, high school grades and rank in graduating class have consistently been found to predict performance in college. Thus, it is not surprising that the majority of these respondents gave earlier evidence of being college-bound: 86 percent had taken college preparatory programs in high school; and half had earned high school grade averages of B+ or better. Clearly, the follow-up sample of disabled respondents was not, on the whole, educationally handicapped.

Following a brief comparison of the high school backgrounds of the five major disability groups (orthopedic, visual, multiple, hearing, and health-related), this section describes the extent to which these groups received special education interventions in their earlier schooling. At least in the public school sector the legal mandate to educate the handicapped has existed for many years with great variation from state to state, however, until the passage of P.L. 94-142 in 1975. Since that time, all states that receive federal funds are covered by that legislation. The range and types of services or accommodations actually offered probably defies quantification.

Table 16

Veteran Status of 1981 Follow-Up Respondents, by Disability Area
(percentages)

	Percentage of Veterans in Each Disability Group	Percentage of Veteran Group
Orthopedic	7	34
Visual	2	7
Multiple	7	29
Hearing	2	5
Health-related	2	4
Other	10	18
Learning	0	0
Speech	0	0
Emotional	15	3
Total	4	100

High School Background (Tables 17, 18, 19, 20). The majority of the total sample (79 percent) attended public high schools; the majority (78 percent) also took regular academic classes with nondisabled peers. As mentioned earlier, the majority also earned high grades in college preparatory tracks.

It was pointed out in Chapter 3 that the disabled were slightly more likely than was the average freshman to attend a private high school. As Table 17 shows, this was especially true for those with hearing and health-related disabilities. For instance, 18 percent of the hearing-impaired and 24 percent of the health-impaired (compared with 12 percent of each of the other three major disability groups) attended religious high schools.

Almost twice as many respondents with orthopedic, multiple, and health-related disabilities (17-18 percent) as those with visual and hearing impairments (8-10 percent) took an other-than-college-preparatory program in high school (Table 18).

Grade distributions are shown in Table 19. Most likely to have earned A averages in high school were those with health-related disabilities (39 percent) and the visually impaired (35 percent). Those with orthopedic and multiple disabilities tended to make somewhat lower grades than others; this may in part be attributable to the larger proportions of older students, and of students who had not taken college preparatory programs, in these disability groups.

As Table 20 shows, type of academic program in high school varied slightly by disability area. Those with multiple handicaps were least likely to have been mainstreamed with their nondisabled peers: A substantial one-

Table 17

Type of High School Attended by 1981 Follow-Up Respondents, by Disability Area
(percentages)

Type of High School	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Public	83	83	82	72	74	78	67	89	54	79
Private: nondenominational	6	5	6	10	3	3	8	0	28	6
Private: religious	12	12	12	18	24	19	25	11	18	15
N	750	677	619	392	331	274	166	84	33	3,326

Table 18

High School Program of 1981 Follow-Up Respondents, by Disability Area
(percentages)

High School Program	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
College preparatory	82	92	83	90	83	90	68	100	100	86
Other	18	8	17	10	17	10	32	0	0	14
N	738	677	616	392	325	267	162	79	33	3,290

Table 19

High School Grade Average of 1981 Follow-Up Respondents, by Disability Area
(percentages)

High School Grade Average	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
A or A+	13	17	11	14	18	13	2	16	0	13
A-	14	18	9	15	21	16	2	5	39	14
B+	24	26	21	26	24	22	16	22	0	24
B	21	16	25	18	24	29	35	31	44	23
B-	8	10	13	16	4	3	23	13	17	10
C+	6	8	9	7	6	11	12	13	0	8
C	12	3	11	4	3	5	8	0	0	7
D	1	1	0	0	0	0	0	0	0	0
N	747	672	609	388	326	279	166	84	33	3,303

Table 20

Educational Interventions Experienced in High School
by 1981 Follow-Up Respondents, by Disability Area
(percentages)

Intervention	1981 Disability Area					
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Total
Regular academic program with nondisabled peers	81	77	66	88	86	78
Regular academic program with special classes or services as needed	9	9	25	5	4	12
Regular school but segregated in special academic classes	8	11	4	4	10	8
Special school for the disabled	1	3	3	1	0	1
Other	1	0	1	1	0	1
N	665	24	503	349	292	292

fourth had "resource" support (i.e., attended regular academic classes with special services as needed). On the other hand, 88 percent of the hearing-impaired had been academically mainstreamed. Most likely to have been segregated for academic classes in high school were the visually handicapped group (11 percent) and those with health-related disabilities (10 percent).

Earlier Academic Programs (Table 21). Table 21 shows the nature of the elementary and junior high programs for the five largest groups of disabled respondents. Although the majority in each group were mainstreamed throughout their earlier schooling, the multiply disabled were more likely than other groups to have been exposed to special education interventions at both the elementary and junior high levels. Respondents with health-related handicaps, on the other hand, were the most likely to have attended academic classes with nondisabled peers.

Table 21

Educational Interventions Experienced in Elementary and Junior High School by 1981 Follow-Up Respondents, by Disability Area (percentages)

Intervention	1981 Disability Area											
	Orthopedic		Visual		Multiple		Hearing		Health-Related		Total	
	Elementary	Junior High	Elementary	Junior High	Elementary	Junior High	Elementary	Junior High	Elementary	Junior High	Elementary	Junior High
Regular academic program with nondisabled peers	87	83	84	78	66	69	83	86	91	92	82	80
Regular academic program with special classes or services as needed	5	11	8	6	17	15	10	8	1	2	8	10
Regular school but segregated in special academic classes	4	3	2	10	9	7	2	4	6	4	5	6
Special school for the disabled	4	0	6	5	6	4	4	1	2	0	4	3
Other	1	2	0	1	3	4	2	1	0	2	1	2
N	665	629	558	553	445	451	348	338	292	276	2,760	2,686

Chapter 5

College Update

This chapter presents findings on the activities and accomplishments of the five main groups of disabled persons during the three years between participation in the 1978 CIRP survey and in the 1981 follow-up survey. It should be recalled at the outset that the largest proportion of follow-up respondents (38 percent) had entered private four-year colleges. As shown in Table 22, this was true for each of the five main disabled groups as well: The range was from 35 percent of those with orthopedic handicaps to 44 percent of those with visual handicaps. Consistent with earlier background findings, a larger-than-average proportion of the orthopedic group (22 percent, compared with 16 percent of the total follow-up sample) had entered public two-year colleges. A larger-than-average proportion of those with health-related disabilities (23 percent, compared with 18 percent of the total group) had enrolled at public universities in 1978. Nonetheless, it is clear that students with every type of disability are represented at each type of U.S. higher education institution.

This chapter first identifies persisters, stopouts, and dropouts; then discusses the reasons given for withdrawing from college temporarily or permanently and the anticipated behaviors of those remaining in college (or planning to return). Transfer students are identified, and their reasons for changing institutions are analyzed. The second major section deals with follow-up items relating to college progress and performance: current college residence, college finace, and various attitudes and behaviors. As in the previous chapter, data on respondents with learning, speech, emotional,.and

Table 22

1978 Institutional Distribution of Follow-Up Respondents, by Disability Area
(percentages)

Level and Control of Institution	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
University:										
Public	17	19	17	19	23	23	5	14	0	18
Private	11	8	9	9	7	10	3	16	0	9
Four-year college:										
Public	12	16	15	15	17	27	8	26	21	16
Private	35	44	40	37	38	23	55	21	45	38
Two-year college:										
Public	22	12	17	16	14	11	14	23	15	16
Private	3	0	3	3	2	6	16	0	18	3
N	750	677	622	392	331	283	166	84	33	3,338

"other" disabilities are included in the tables, but these groups are not discussed.

1981 Status

When these disabled repondents were surveyed in 1978, only 4 percent felt there was a very good chance they would drop out of college temporarily or permanently. By 1981, however, only two-thirds of the total group had been continuously enrolled ("continuous persisters"). Fifteen percent were temporarily not attending college but planned to reeroll ("current stopouts"); 10 percent had stopped out earlier but were currently reenrolled ("former stopouts"); and 8 percent had left college altogether and had no plans to return ("dropouts"). Of course, there were proportionate differences by disability area, and the groups varied in their reasons for leaving school temporarily or permanently.

Persisters, Stopouts, and Dropouts (Tables 23, 24, 25). As Table 23 shows, the largest proportions of continuous persisters were found among the hearing-impaired (77 percent) and the visually handicapped (74 percent). Most likely to be former stopouts were those with health-related (19 percent) and with multiple (15 percent) disabilities. The multiply disabled group also included the largest proportion of current stopouts (21 percent). The orthopedically handicapped were most likely to have left college altogether (10 percent).

Table 24 shows the proportions of former stopouts, current stopouts, and dropouts citing as "very important" each of 24 reasons for interrupting or terminating their college education. The most common reasons for withdrawing from school were needing to earn more money (cited as very important by 38

Table 23

1981 Status of Follow-Up Respondents, by Disability Area
(percentages)

1981 Status	1981 Disability Area									
	Orthopedic	Visual	Multiple[a]	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
I am currently enrolled in college, and have been since 1978	63	74	56	77	63	64	70	92	68	67
I withdrew from college temporarily but am currently enrolled again	10	6	15	8	19	8	4	0	0	10
I am temporarily not in college but plan to return soon	16	14	21	8	12	23	17	0	0	15
I have permanently withdrawn from college or intend to do so	10	7	7	6	6	5	10	8	32	8
N	738	663	611	386	331	268	166	84	27	3,275

Table 24

Reasons for Leaving College Temporarily or Permanently, as Reported by 1981 Former Stopouts, Current Stopouts, and Dropouts (percentages marking "very important")

Reason	Former Stopout	Current Stopout	Dropout	Total
College did not provide adequate support services	12	8	6	9
I had completed my planned programs	8	22	42	21
I had to assume family responsibilites	12	17	19	16
I became ill/needed treatment	47	15	9	25
I got a good job offer	8	14	24	14
I needed to earn money	30	48	24	38
I (or my family) moved to a different location	2	8	2	5
I did not do as well academically as I thought I would	24	21	20	22
My relatives/spouse discouraged me from continuing	2	4	3	4
I decided I did not need a college degree	0	2	13	3
I wanted time to reconsider my goals and interests	41	32	32	35
I changed my career plans	20	10	21	15
I was tired of being a student	16	11	10	12
I was unable to get the financial aid I needed	30	29	3	25
College expenses were too high	29	37	9	29
Expenses connected with my disability were too high	9	7	2	7
I wanted to get practical experience	14	9	21	13
I felt that a college education would not improve my job prospects	1	1	10	2
I didn't feel safe on campus	1	3	2	2
I had no place to study	2	5	0	3
I didn't "fit in" at college	8	5	13	7
I wanted to travel	5	6	8	6
I wanted to transfer to another institution but could not enroll immediately	16	12	2	12
Other	33	26	39	31

percent of the total group) and needing time to reconsider goals and interests (cited by 35 percent). Academic difficulties were cited by 22 percent of the total group. Relatively few respondents in any group said that their relatives or spouse discouraged them from continuing, that they didn't feel safe on campus, that they had no place to study, or that they wanted to travel. Otherwise, former stopouts, current stopouts, and dropouts tended to cite slightly different reasons for their behavior.

Former stopouts were more likely than current stopouts or dropouts to say they left college because they were ill/needed treatment (47 percent), wanted time to reconsider their goals and interests (41 percent), were tired of being students (16 percent), wanted to transfer to another institution but could not enroll immediately (16 percent), or felt that the college did not provide them with adequate support services (12 percent). Smaller-than-average proportions cited family responsibilities or illness (12 percent), completion of their planned program (8 percent), or a good job offer (8 percent) as very important reasons for their temporary withdrawal from college.

Current stopouts mentioned needing to earn more money (48 percent) and finding college expenses too high (37 percent) more frequently than others. In addition, 8 percent (compared with only 2 percent of former stopouts and of dropouts) said that they or their families had moved to a different location. Relatively few in this group withdrew from college because they had changed their career plans (10 percent) or because they wanted to get practical experience (9 percent).

Dropouts were distinguished from former and current stopouts in several ways. For instance, 42 percent said they left college because they had completed their planned program; thus, their withdrawl does not represent

a failure to actualize earlier aspirations. They also appear to be more vocationally oriented in that relatively large proportions dropped out because they got a good job offer (24 percent), wanted to get practical experience (21 percent), decided they did not need a college degree (13 percent), or felt that a college education would not improve their job prospects (10 percent). They also had a tendency to feel they did not "fit in" at college (13 percent). However, they were less likely than others to withdraw from college because they were ill/needed treatment (9 percent), found college expenses too high (9 percent), were unable to get needed financial aid (3 percent), found disability expenses too high (2 percent), or planned to transfer to another college (2 percent).

Table 25 shows the proportions of continuous persisters, former stopouts, and current stopouts who expected to engage in the future in each of 15 behaviors listed on the 1981 follow-up survey. The proportions expecting to seek vocational counseling were about the same for the three groups (14-16 percent), but otherwise they differed somewhat in their expectations. For instance, the most common expectation involved getting a job after college connected with one's major field of study: 82 percent of the former stopouts, 77 percent of the continuous persisters, but only 56 percent of the current stopouts indicated this expectation. Similarly, over two-thirds of those currently enrolled in college, but only three-fifths of the current stopouts, expected to make at least a B average. Over half of the continuous persisters and current stopouts, but only 45 percent of the former stopouts, felt they would get a job after college for which a college degree is appropriate.

Continuous persisters demonstrated greater optimism and less uncertainty than the other two groups. Thus, 10 percent (compared with only

Table 25

Anticipated College Behaviors of
Former Stopouts, Current Stopouts, and Dropouts
(percentages marking "very important")

Behavior	Constant Persister	Current Stopout	Dropout	Total
Change major field	2	19	27	8
Change career choice	6	13	26	10
Fail one or more courses	2	4	4	3
Graduate with honors	27	26	15	25
Be elected to a student office	10	2	1	7
Make at least a "B" average	70	69	60	68
Need extra time to complete degree requirements	24	36	37	28
Get tutoring help in specific courses	10	12	24	13
Seek vocational counseling	14	16	16	15
Seek individual counseling on personal problems	6	17	21	10
Participate in protests and demonstrations	9	8	5	8
Drop out of college temporarily	1	0	13	3
Transfer to another college before graduation	2	13	20	6
Get a job after college connected with major field of study	77	82	56	74
Get a job after college for which a college degree is appropriate	55	45	58	54

2 percent of the former stopouts and 1 percent of the current stopouts) expected to be elected to a student office. But smaller proportions than of the other two groups anticipated changing major field or career choice, needing extra time to complete degree requirments, failing one or more courses, seeking individual counseling for personal problems, or transferring to another college before graduation.

By way of contrast, over one-fourth of the current stopouts expected to change major field or career choice, 24 percent expected to get tutoring help in specific courses, and one-fifth expected to seek individual counseling and to transfer to another college before graduation. Relatively few thought they would graduate with honors.

As might be expected, former stopouts tended to fall between the other two groups. They resembled continuous persisters in the proportions expecting to graduate with honors and to participate in demonstrations or protests; but they were more similar to stopouts in the proportions expecting to need extra time to complete the degree and to seek individual counseling for personal problems.

It should be pointed out that the identification of particular students as persisters, stopouts, or dropouts is tentative in that those who have been enrolled continuously since 1978 or who have returned to college after a temporary withdrawal may, of course, become dropouts before completing the baccalaureate; those who said on the 1981 follow-up questionnaire that they were not currently in school but planned to return may not, in fact, ever carry out these plans. Conversely, some of the respondents who say they have dropped out permanently may in the years to come return to college to complete a degree. These uncertainities are characteristics of research on college students.

Transfer Students (Table 26). In 1978, only 9 percent of the respondents to the 1981 follow-up survey had said they would probably transfer to another institution prior to graduation. As Table 26 shows, about three in ten had actually done so by 1981. Most likely to have attended more than one institution were those with multiple and with health-related disabilities (34 percent in both groups); least likely were the visually disabled (23 percent).

Table 26 also shows the reasons cited as "very important" in the decision to transfer from one institution to another. The most common reason, cited by 37 percent of the total group, was wanting to pursue a different type of program than was offered by the first institution. The proportions saying they wanted to live in a different type of community were about the same for all groups. Relatively few said they transferred because they did not feel safe or had no place to study at their first institution. To some extent, however, the five main disability groups were distinguished by their reasons for transferring.

Consistent with their overrepresentation in public two-year colleges, the orthopedically disabled were relatively likely to say that they had completed their planned program (26 percent). In addition, larger-than-average proportions transferred to pursue a particular program, to attend a college with a better academic reputation, and to improve their social life. Relatively few transferred because they were dissatisfied with the support services at their first institution or because they wanted to attend a college either farther away or closer to their homes. In short, the orthopedically impaired seem to be goal-directed in their decision.

Table 25

Number of Institutions Attended, and Reasons for Transfering, by Disability Area

Reasons	Number of Institutions	1981 Disability Area									
		Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
	One	74	77	66	70	65	78	60	82	49	71
	Two	19	21	29	28	24	19	32	18	51	24
	Three	7	2	5	2	10	3	8	0	0	5
	N	741	672	622	388	331	274	166	84	33	3,312
		(percentage marking "very important")									
My first college did not provide adequate support services		6	13	26	13	8	0	27	0	0	13
I completed my planned program at my first institution		26	22	10	24	9	18	0	29	78	18
I wanted a better social life		19	7	13	22	12	14	6	0	0	13
I wanted to go to a larger institution		10	19	16	20	3	8	27	0	0	14
I wanted to go to a smaller institution		11	20	5	7	4	0	6	0	0	8
I wanted to live in a different type of community		27	22	27	24	26	22	35	0	0	27
I wanted to be father from home (parents)		2	6	6	13	4	16	14	0	0	7
I wanted to be closer to home (parents)		2	11	17	5	7	20	6	0	0	17
I or my family moved to a different location		4	0	8	3	0	0	0	0	0	3
I wanted to go to an institution with a better academic reputation		26	21	22	19	12	8	64	0	35	23
I wanted to take a different type of program than was offered at my first institution		46	43	38	25	19	54	36	71	0	37
I was generally dissatisfied with my first institution		28	37	38	24	7	13	62	71	0	30
I needed to attend a less expensive school		16	14	30	12	0	14	12	0	22	16
My financial situation improved so I could attend a more expensive school		2	7	1	0	0	8	9	0	0	3
I didn't feel safe on the campus of my first institution		2	3	5	2	0	6	9	0	0	3
I had no place to study at my first institution		0	3	3	0	3	0	0	0	0	2
I didn't "fit in" at my first institution		10	3	18	10	3	7	67	0	0	9
Other		25	18	30	29	25	21	24	71	0	25
N		196	156	210	118	115	60	66	15	17	955

Those with visual disabilities were also inclined to say that they transferred in order to pursue a program not offered by their first institution. About one-fifth wanted to attend a larger institution, and one-fifth wanted to attend a smaller institution. They were more likely than average to transfer out of general dissatisfaction with their first institution. Seven percent (compared with 3 percent of the total group) said that their financial position had improved so they could attend a more expensive school. The visually impaired were less likely than others to say they transferred because they wanted a better social life or because they did not "fit in" to their first institution.

The multiply disabled were also likely to express general dissatisfaction with the first institution (38 percent). In addition, they gave evidence of more severe incapacitation than others in that larger-than-average proportions had transferred because the support services at the first college were inadequate, because they wanted to be closer to home, because they didn't feel safe on campus, and because they didn't fit in. Thirty percent (compared with 16 percent of the total sample) wanted to attend a less expensive college. Reasons mentioned less frequently by the multiply disabled than by others were having completed their planned program and wanting to attend a smaller institution.

The hearing-impaired were more likely than average to have completed their planned program. In addition, relatively large proportions said they changed colleges to improve their social life, to attend a larger institution, and to get farther away from home. Thus, this disability group manifests a sociable and risk-taking propensity.

Though respondents with health-related disabilities were, along with

the multiply disabled, the most likely to have transferred college, they were also distinguished by the smaller-than-average proportions who cited such reasons as having completed their planned programs; receiving inadequate support services; wanting to attend a larger or smaller institution, an institution with a better academic reputation, or a less expensive institution; feeling they did not fit in; or being generally dissatisfied. Generally, they were more likely to cite a given reason as "somewhat important" than as "very important." It is helpful to note that 10 percent of this group had attended three or more institutions since 1978; thus, many of the transfer students may have had difficulty recalling their specific reasons for changing colleges.

College Progress, Performance, and Experiences

This section discusses the progress, performance, and experiences of 1981 follow-up respondents, by disability area. Although the majority of the total group had been enrolled on a full time basis during most of their college career (83 percent), were juniors or seniors (76 percent), had earned grade averages of B- or better (69 percent), had no tutoring or remediation in college (73 percent), worked while in college (55 percent), lived in on-campus housing (58 percent) with nondisabled roommates (59 percent), and had incomes of less than $5,000 per year (63 percent), the groups differed slightly in these regards. These differences are highlighted below. In addition, differences in college behaviors and in sources of income are discussed.

In general, those with orthopedic and multiple disabilities stand out as less traditional, while the visually and hearing impaired were more successful.

Rate of Progress in College (Table 27). Data on three areas relating to college progress are presented in Table 27 for each disability group: 1978

Table 27

Enrollment Status of Follow-Up Respondents in Fall 1978 and 1978-81, and Fall 1981 College Class, by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
1978 Enrollment Status:										
First-time, full-time	82	91	83	86	90	85	92	100	85	86
First-time, part-time	2	0	0	5	0	0	2	0	0	1
Nonfreshman	16	9	16	9	10	15	6	0	15	12
1978-1981 Enrollment Status:										
Full-time	89	95	88	93	92	92	88	100	85	88
Part-time	7	4	9	4	6	3	7	0	0	9
Not enrolled	5	1	3	3	2	5	5	0	15	3
Fall 1981 College Class:										
Freshman	10	3	11	7	12	6	19	0	15	8
Sophomore	13	11	16	8	5	20	9	8	29	12
Junior	28	21	32	27	32	24	34	48	17	28
Senior	44	62	38	55	50	46	33	37	38	48
Other	5	4	2	4	2	4	6	8	0	4
N	741	671	622	389	331	274	166	84	33	3,311

enrollment status; general enrollment status most of the time during the past three years; and current or most recent college class (i.e., Fall 1981).

Since the visually impaired were most likely of any of the five main groups to be first-time, full-time freshmen in 1978 (91 percent) and to have been enrolled full time between 1978 and 1981 (95 percent), it is not surprising that they were also most likely to be entering their senior year in college at the time of the follow-up survey (62 percent). In short, this group progressed "normally" through their undergraduate careers. Fifty-five percent of the hearing-impaired and 50 percent of the respondents with health-related disabilities had achieved senior status. The hearing-impaired were the most likely group to have been continuously enrolled in college during the previous three years; 93 percent had been full-time students for most of that period. The greater-than-average propensity of those with health-related disabilities to have stopped out at some earlier point or to have transferred from their first institution probably accounts for the relatively large proportion (32 percent) who were junionrs. The orthopedically and multiply disabled seem to have made slightly slower progress. Even though 16 percent of each group had been admitted with advanced standing in 1978 (and thus presumably had earned some college credits already), lower-than-average proportions of both groups had attained senior status by 1981. This is consistent, however, with their lower-than-average proportions of continuous persisters (Table 23), and of full-time enrollees. That one-third of the multiply disabled had transferred between 1978 and 1981 is probably a factor in their slower progress.

College Grades (Table 28). As was true in high school (where, it should be recalled, they were the least likely group to be mainstreamed for academic classes), the multiply disabled group earned lower grades in college than did

Table 28

College Grade Average of 1981 Follow-Up Respondents, by Disability Area
(percentages)

College Grade Average	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
A or A+	8	7	2	5	6	3	0	0	0	5
A-	10	12	6	10	15	16	2	28	0	11
B+	13	12	14	15	29	9	10	0	0	14
B	19	19	11	18	14	21	2	14	17	16
B-	24	25	24	20	14	24	12	37	68	23
C+	13	10	19	20	7	12	23	13	0	14
C	12	13	19	10	13	11	40	8	0	14
D	1	2	4	2	1	3	9	0	15	3
N	736	666	622	392	331	274	166	84	33	3,303

the four other main groups: 42 percent earned college GPAs of C+ or below, compared with 31 percent of the total sample. Those with health-related disabilities earned slightly higher-than-average grades, even though 17 percent of them had not taken college preparatory programs in high school. Two aspects of their educational backgrounds discussed in Chapter 4 may have contributed to their subsequent achievements in college: First, one-fourth (compared with 15 percent of the total sample) attended religious high schools; and second, slightly larger-than-average proportions (86 percent, compared with 78 percent of the total group) were mainstreamed foracademic classes in high school.

Remediation or Tutoring in College (Table 29). In 1978, 14 percent of the total sample said there was a very good chance they would need to have tutoring help in college; indeed, three in ten felt they needed extra help in mathematics. Table 29 shows the proportions in each disability area who did not have remediation or tutoring, as well as those who had such help in reading, writing or composition, mathematics, social studies, science, foreign language, or some "other" subject. Except for respondents with multiple disabilities--about one in five of whom had extra help for writing or composition and for mathematics--no more than 14 percent in any of the main groups had tutoring or remediation in any subject listed. As anticipated, the largest proportion in all groups got extra help in mathematics.

Employment in College (Table 30). In 1978, 36 percent of the total 1981 follow-up respondent group (compared with 41 percent of their nondisabled counterparts) felt there was a "very good chance" they would get a job to help pay for college expenses. By 1981, however, 55 percent had been employed most of the time in college. Not unexpectedly, respondents usually worked part time, 27 percent on campus and 21 percent off campus (Table 30).

Table 29

Remediation or Tutoring Taken in College by 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
No	79	73	73	68	81	83	40	75	50	73
Yes, reading	2	5	12	5	5	3	24	6	11	6
Yes, writing or composition	6	8	22	9	5	5	46	5	0	11
Yes, mathematics	10	9	20	14	12	14	16	6	0	13
Yes, social studies	0	0	2	2	0	2	6	0	0	1
Yes, science	4	3	7	9	2	5	14	0	0	5
Yes, foreign language	3	1	6	2	1	2	0	0	38	3
Yes, others	2	2	7	5	4	3	7	13	21	4
N	750	677	622	392	331	283	166	84	33	3,338

Table 30

College Employment of 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Not employed	53	45	47	41	34	33	56	39	15	45
Full-time employment off campus	6	6	7	5	2	6	6	8	0	6
Part-time employment off campus	25	29	15	27	46	32	27	24	39	27
Full-time employment on campus	0	2	2	2	0	3	2	8	0	2
Part-time employment on campus	15	18	29	25	18	26	8	22	45	21
N	741	660	609	387	318	274	166	84	33	3,273

In view of the positive relationship found between part-time employment on campus and persistence for all students (see, for example, Astin, 1975), the findings for respondents with health-related disabilities are particularly interesting: Only one-third had not been employed in college, and a substantial 46 percent worked in part-time, on-campus jobs. At the same time, this group made higher-than-average grades; moreover, one in five had stopped out at some point but was currently reenrolled in college. Though no causal connection can be proved, these data suggest that such employment may have contributed to the persistence and performance of this group. It is also worth noting that their disability is health-related rather than modality-related (e.g., hearing, vision).

As regards the four other main disability groups described in this report, Table 30 shows that the orthopedically handicapped were most likely to have had outside employment while in college (47 percent). A slightly larger-than-average proportion of the multiply handicapped (29 percent) worked at part-time off-campus jobs, which may help to explain why only 56 percent (compared with 67 percent of the total respondent sample) had been continuously enrolled in college since 1978.

College Residence: Actual and Preferred (Table 31). Research shows that, for the average college student, living on campus contributes to persistence and achievement, largely because it facilitates greater student involvement with all aspects of the college environment (Astin, 1975, 1977; Chickering, 1974).

The top half of Table 31 shows where each disability group lived most of the time while in college. Again, those with health-related disabilities stand out; but in light of their general success in college, their residential

Table 31

Actual and Preferred College Residence of 1981 Follow-Up Responderts, by Disability Area
(percentages)

Residence	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Actual residence:										
College housing (dormitory, fraternity or sorority, other college housing)	56	64	58	63	43	62	60	64	45	58
Off campus (private room, apartment, or house)	34	33	35	32	50	32	30	28	55	35
Other	9	4	8	5	7	6	10	8	0	7
N	724	666	598	377	326	266	151	84	33	3,225
Preferred residence:										
College housing (dormitory, fraternity or sorority, other college housing)	47	37	32	48	40	40	40	36	59	41
Off campus (private room, apartment, or house)	43	59	63	51	56	54	56	64	41	54
Other	10	4	5	2	4	6	3	0	0	5
N	649	597	518	350	297	263	119	73	26	2,893

pattern runs somewhat contrary to expectation. Half lived off campus (compared with 35 percent of the total group); thus, fewer lived in college housing (43 percent, compared with 58 percent of all respondents). On the other hand, the visually impaired and the hearing-impaired were most likely to live on campus; this is consistent with their larger-than-average proportions of continuous persisters, full-time students, and seniors. The distributions of the orthopedically and multiply disabled resembled the distribution for the total sample: 56-58 percent lived on campus; 34-35 percent lived off campus; and 8-9 percent lived in some "other" setting.

The bottom half of Table 31 shows preferred college residences. All but the orthopedically handicapped were more likely to prefer living off campus to living on campus.

Actual and Preferred College Roommates (Table 32). About three in five of the total disabled sample lived with roommates most of the time they were in college; about one-fourth lived with parents or relaties; and 10 percent lived alone. These figures are consistent with the proportions living on or off campus shown in Table 31. Comparing disability groups with respect to actual roommates most of the time in college, the top half of Table 32 shows similar consistency. For instance, the hearing-impaired and the visually impaired (who were the most likely to live on campus) were also the most likely to live with roommates, while respondents with health-related disabilities (who were the most likely to live off campus) were also the most likely to live with parents or relatives.

It is unclear why larger-than-average proportions of the multiply handicapped either lived alone (14 percent) or with disabled roommates (4 percent). Moreover, their preferences as to roommates options were distinctive.

Table 32

Actual and Preferred College Roommates of 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Actual										
Parents or relatives	23	19	24	20	36	18	38	42	33	24
Alone	9	7	14	11	11	12	10	0	17	10
Disabled roommate or roommates	0	2	4	2	2	1	3	0	0	2
Nondisabled roommate or roommates	56	68	54	65	46	66	49	58	28	59
Spouse	8	2	5	0	3	2	0	0	21	4
Other	3	1	0	2	2	0	0	0	0	1
N	725	644	579	368	326	258	134	73	33	3,140
Preferred										
Parents or relatives	13	10	8	6	6	14	12	27	0	10
Alone	25	25	37	25	35	32	35	33	44	30
Disabled roommate or roommates	2	0	2	2	2	0	4	0	19	2
Nondisabled roommate or roommates	48	52	38	59	46	45	46	35	36	48
Spouse	9	4	8	0	10	6	4	0	0	6
Other	3	8	6	7	0	3	0	6	0	5
N	624	618	504	340	298	252	116	73	26	2,851

They were more likely than average to prefer living alone (37 percent versus 30 percent of the total sample); and they were less likely than average to prefer living with a nondisabled roommate (38 percent), compared with 48 percent of all respondents).

College Finances (Tables 33, 34, 35). The 1981 follow-up survey asked respondents to indicate their current annual income (Table 33); to indicate, from a list of income sources, which were major, minor, or nonsources (Table 34 shows the proportions saying each source was "major"); and to indicate their degree of concern over their ability to pay for a college education (Table 35). Regardless of disability area, the dominant sources of income were parents and relatives (50 percent of the total group), self-support such as earnings from employment and savings (50 percent), and federal college-related financial aid such as grants and loans (36 percent).

As Table 33 shows, the majority of respondents in each of the five main disability groups reported either having no income or an income of less than $5,000; the range was from 61 percent of the multiply handicapped to 74 percent of those with health-related disabilities. At the other end of the spectrum, those with orthopedic disabilities seemed the most well-off: 15 percent reported incomes of $10,000-$19,999, and 10 percent had incomes above $20,000.

As Table 35 shows, most likely to say they were very much concerned about their ability to pay for a college education were the multiply disabled (54 percent) and the orthopedically disabled (50 percent). (The financial concern of the latter group may be attributable to the relatively large proportion who are married and have children.) Most likely to say they were not at all concerned about finances were the hearing-impaired and, again, the orthopedically impaired.

Table 33

Annual Income of 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Health-Hearing	Related	Other	Learning	Speech	Emotional	Total
No income	12	10	16	11	2	8	15	0	0	10
$4,999 or below	48	56	45	52	72	40	61	87	45	53
$5,000 - $9,999	16	15	22	24	17	32	17	5	15	19
$10,000 - $19,999	15	14	13	12	3	13	7	8	39	12
$20,000 or above	10	6	4	1	6	7	0	0	0	5
N	731	672	613	360	331	269	152	84	33	3,246

Table 34

Major Income Sources of 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Parents, relatives, inheritance, etc.	47	50	47	52	52	46	85	42	49	50
Spouse	7	6	5	6	9	6	0	6	21	6
Self (earnings from employment, savings, etc.	51	45	48	52	51	52	45	81	44	50
Social Security benefits	12	5	15	6	12	13	3	8	0	10
Veterans' benefits	2	1	4	2	2	5	4	0	21	3
Vocational Rehabilitation funds	17	16	13	17	19	20	0	8	0	15
Supplementary Support Income	6	8	5	3	1	3	0	0	0	5
Federal college-related financial aid (loan, grant, etc.)	36	40	40	39	36	29	8	34	34	36
Scholarship from college	12	10	5	12	13	10	6	22	0	10
Scholarship from outside agency, organization	6	4	3	8	6	2	0	24	0	5
Other	10	0	7	6	6	8	0	0	18	6

Table 35

Extent of Concern Over Financing College Education as Reported by 1981 Follow-up Respondents by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Very much	50	46	54	40	46	43	27	13	35	46
Somewhat	30	40	34	37	37	30	23	60	28	35
Not at all	21	14	13	22	17	26	50	27	37	20
N	742	671	622	392	331	274	166	84	33	3,314

Behaviors in College (Table 36). The 1978 freshman survey asked respondents to make a "best guess" as to their chances of engaging in each of 24 behaviors at college; the response options were "very good chance," "some chance," and "very little chance," and "no chance." Nine of these behavior items were repeated on the follow-up survey. Table 36 shows the proportions indicating they had actually engaged in a particular behavior; the last column shows the total proportion in 1978 saying there was a "very good chance" for each.

In 1978, the three most commonly anticipated behaviors of those included on the follow-up list were feeling satisfied with college, earning at least a B average, and getting a job to help pay for college expenses. Three years later, these were also the most common actual behaviors for the total group and for each of the five main disability groups.

Consistent with their greater-than-average propensity to transfer, the multiply handicapped were less likely than others to feel satisfied with college (59 percent, compared with 67 percent of the total follow-up sample). Their lower college grade averages are confirmed by the relatively small proportions earning at least a B average (51 percent, compared with 58 percent of the total group) and the relatively large proportion failing one or more courses (48 percent, compared with 32 percent of the total group). They were also somewhat more likely than others to have changed career choices and to have participated in campus protests or demonstrations.

Those with hearing and health-related disabilities, whose progress and achievement in college were relatively high, evidence campus involvement in that two-fifths of each group (compared with 32 percent of the total sample) had joined fraternities, sororities, or social clubs. In addition, the hearing-

Table 36

College Behaviors of 1981 Follow-Up Respondents, by Disability Area

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Change major field	34	38	35	36	32	31	38	30	32	35
Change career choice	33	30	39	36	36	30	20	32	49	33
Fail one or more courses	26	30	48	20	28	33	44	41	49	32
Was elected to student office	13	14	13	22	14	20	2	11	0	14
Served on a campus committee	23	36	30	29	28	30	13	32	17	29
Got a job to help pay for college expenses	48	64	52	60	50	57	30	61	61	54
Joined a social fraternity, sorority, or club	32	28	29	41	40	25	25	39	0	32
Made at least a "B" average	57	60	51	61	68	65	25	85	44	58
Participated in protests or demonstrations	7	16	14	8	4	12	2	11	34	11
Felt satisfied with college	72	71	59	68	70	60	52	87	68	67
N	750	677	622	392	331	283	166	84	33	3,338

impaired were more likely than others to have been elected to a student office. Relatively large proportions got a job to help pay for college expenses, and relatively few failed one or more courses. Those with health-related disabilities were most likely to have earned at least a B average and least likely to have participated in protests or demonstrations.

A larger proportion of the orthopedically impaired than of any other group expressed satisfaction with college, but a smaller proportion served on a campus committee. Finally, the visually impaired were distinguished by the relatively large proportions who felt satisfied with college, got a job to help pay for college expenses, changed major field, served on a campus committee, and participated in protests or demonstrations.

College Mentors (Table 37). Some particularly interesting findings from the follow-up survey are shown in Table 37. Over three in five of the total group (62 percent) identified one person whose guidance, support, or confidence in them was central to their success in college. The largest proportion (one-fifth) named a family member, 12 percent cited a college professor, and 11 percent said a college friend had given them support and guidance. Only 7 percent of those identifying a mentor said that mentor was disabled, and three in five indicated their mentor was age 30 or older. It is somewhat surprising that no one cited a high school advisor or counselor as a support person for their college success, particularly when one considers that high school counselors often play a major role in advising about college.

The five main disability groups differed slightly with respect to the college mentor. Those with multiple handicaps were least likely to say they had no mentor (31 percent) and most likely to indicate that a college professor was the person who took a special interest in them (17 percent, compared with

Table 37

Characteristics of College Mentor, as Reported by 1981 Follow-Up Respondents, by Disability Area
(percentages)

Characteristic	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Identity of mentor:										
No mentor	40	46	31	35	38	46	26	40	15	38
Personal friend (outside of school)	7	6	6	8	9	5	5	8	0	7
Family member (e.g., parent or spouse)	23	21	21	20	15	17	39	0	18	21
High school friend	1	1	2	2	0	2	0	0	0	1
High school teacher	2	0	0	0	2	0	8	0	0	1
High school advisor, counselor	0	0	0	0	0	0	0	0	0	0
College friend	11	11	10	12	14	10	3	18	11	11
College professor, teacher	9	8	17	13	15	10	13	20	17	12
College advisor, counselor	4	4	9	7	8	5	0	0	38	6
Other	4	3	4	3	0	5	5	13	0	4
N	741	671	610	386	324	283	162	84	33	3,294
Gender of mentor:										
Male	54	43	45	42	63	58	27	65	100	50
Female	46	57	55	58	37	42	73	35	0	50
N	443	346	418	252	202	152	106	50	28	1,998
Status of mentor:										
Disabled	4	12	7	8	10	3	8	0	13	7
Not disabled	96	88	93	92	90	97	92	100	87	93
N	427	345	402	249	199	136	107	50	28	1,942
Age of mentor										
22 years or younger	25	27	24	26	29	30	18	57	13	26
23 to 29 years	13	17	13	12	18	12	13	9	20	14
30 years or older	62	56	63	61	53	58	69	34	66	60
N	443	361	417	252	202	152	112	50	28	2,017

12 percent of the total group). Conversely, the visually handicapped were most likely to say they had no particular support person (46 percent); only 8 percent mentioned a college professor as taking a special interest in them. Considering that the multiply disabled are least likely and the visually handicapped most likely to be continuous persisters, these differences seem surprising. However, as will be clear in Chapter 7, the multiply disabled stand out in a variety of ways which suggests that their disabilities restrict and challenge them more than is the case with their counterparts. Moreover, as was clear from the background data discussed in Chapter 2, the visually disabled and the multiply handicapped stand in sharp contrast on measures of traditionality (e.g., age, enrollment, status) and high school preparation and achievement (e.g., high school track, grade average).

Even though women outnumbered men in the follow-up sample, 50 percent of the respondents identifying mentors said those mentors were men. Especially likely to have male mentors were those with health-related disabilities (63 percent) and those with orthopedic handicaps (54 percent). Female mentors were cited more frequently by the three other main groups. Most likely to say that their mentors were disabled were the visually impaired (12 percent) and those with health-related disabilities (10 percent).

Chapter 6

Degree Plans, Major Field, and Career Choice

In both 1978 and 1981, disabled respondents were asked to indicate the highest degree they planned to get, their major field (intended in 1978 and actual in 1981), and their career choice. Appendix F shows how the specific major fields listed on the questionnaires were collapsed into a smaller list of categories; Appendix G gives the same information for career choices. This chapter discusses the degree aspirations, college majors, and career choices of the five main disability groups (orthopedic, visual, multiple, hearing, and health-related), comparing 1981 responses with 1978 responses in order to assess stability and change over time. Tabular data cover all nine disability groups.

Highest Degree Planned (Table 38)

In view of the outstanding educational backgrounds and generally successful college performance of the total sample, it is not surprising that they tended to raise their degree aspirations during the undergraduate years, in that the proportion planning to get only a baccalaureate decreased (from 31 percent in 1978 to 20 percent in 1981), whereas the proportion planning to get a master's degree increased (from 31 percent to 40 percent), as did the proportion planning to get a doctorate (from 12 percent to 16 percent). On the other hand, the proportion aiming for a professional degree (i.e., in medicine, law, or divinity) dropped slightly (from 16 percent in 1978 to 11 percent in 1981).

Table 38

1981 Degree Aspirations of Follow-Up Respondents, by Disability Area, Compared with 1978 Degree Aspirations of the Total Sample and of the Five Main Groups (percentages)

Highest Degree Planned	1981 Disability Area										1978					
	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related	Other	Learning	Speech	Emo-tional	Total	Total Sample	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related
None	1	2	4	0	1	2	5	0	22	2	2	2	1	3	3	1
High school diploma or GED	0	1	2	2	0	3	5	0	0	1	a	-	-	-	-	-
Vocational diploma/ certificate	2	1	2	1	0	0	0	0	0	1	a	-	-	-	-	-
Associate (A.A. or equivalent)	4	1	4	4	5	0	4	8	0	3	3	5	0	4	4	1
Baccalaureate (B.A., B.S., etc.)	17	18	17	21	25	27	24	26	30	20	31	30	31	31	30	36
Teaching credential	2	4	5	4	2	3	0	0	0	3	a	-	-	-	-	-
Master's (M.A., M.S., etc.)	46	46	41	38	34	28	32	36	0	40	31	28	33	29	40	31
Doctorate (Ph.D. or Ed.D)	14	18	14	17	21	17	13	16	24	16	12	14	12	13	8	10
Professional degree (e.g., M.D., D.D.S, D.V.M., LL.B., J.D., B.D., M.Div.)	11	8	8	14	11	18	12	14	24	11	16[b]	15[b]	19[b]	16[b]	15[b]	15[b]
Other	2	2	2	1	0	2	5	0	0	2	5	5	4	4	1	5
N	643	611	536	358	306	248	117	79	24	2,291	2,763	637	578	489	340	272

[a]Not included on 1978 SIF as a degree category.

[b]Sum of percentages marking M.D., D.O., D.D.S., D.V.M., LL. B. or J.D. (Law) and B.D. or M. Div. (Divinity) in 1978.

Thus, in 1981, one-fifth of all respondents planned to get a baccalaureate, two-fifths planned to get a master's degree, one-sixth aspired to a doctorate, and slightly over one-tenth aimed for a professional degree. Differences by disability area were generally consistent with differences in background, high school preparation, and undergraduate performance; those with visual, hearing, and health-related disabilities tended to have higher degree aspirations in 1981 than did those with multiple and orthopedic disabilities.

In 1981, the orthopedically handicapped were more likely than average to aim for a master's degree but less likely to aim for either a baccalaureate or a doctorate. Moreover, the decrease between 1978 and 1981 in the proportion planning to get a baccalaureate and the increase in the proportion planning to get a master's were greater for this group than for most others.

The multiply handicapped resembled the orthopedically disabled both in changes in degree aspirations over the three-year period and in their 1981 distribution, except that fewer aimed for either a master's or a professional degree. Moreover, the multiply handicapped were most likely of any of the five main disability groups to indicate in 1981 that they wanted no more than an associate degree: 6 percent (compared with 3 percent of the total sample) planned to earn no degree beyond the high school diploma, 2 percent (compared with 1 percent of the total sample) wanted a vocational diploma or certificate, and 4 percent (compared with 3 percent of the total sample) planned to get an associate degree. They were also most likely to aspire to a teaching credential (5 percent, compared with 3 percent of the total sample).

By way of contrast, the visually disabled were less likely than any other of the five main disability groups to aim no higher than an associate degree and were more likely than average to aspire to an advanced academic degree (master's or doctorate). Looking at changes over the three-year interval, we

find that the proportions wanting a professional degree dropped more than was the case for other groups: from 19 percent in 1978 to only 8 percent in 1981. Apparently, many of the visually impaired lost interest in a professional career during the undergraduate years.

Such was not the case with the hearing-impaired, whose aspirations for a professional degree remained fairly stable over the three-year period (15 percent in 1978, 14 percent in 1981) and who were thus more likely than any other group to plan on a professional degree. Otherwise, their distribution with respect to 1981 degree aspirations resembled the norm. Contrary to the general trend, the proportion planning to get a master's degree fell slightly; the proportion planning to get a doctorate increased from 8 percent in 1978 to 17 percent in 1981.

Respondents with health-related disabilities were more likely than others to aspire to a doctorate, a baccalaureate, or an associate degree in 1981 and less likely to aim for a master's degree. The proportions planning to get an associate degree or a doctorate increased over the three-year period.

College Major (Table 39)

The most popular major field was business, named by 15 percent of the total sample in both 1978 and 1981. In 1978, the health professions ranked second in popularity, named by 11 percent as an intended major; by 1981, however, only 6 percent of the total sample had actually majored in health professions. On the other hand, only 8 percent of the freshman respondents intended to major in social sciences, but 13 percent ended up doing so. Otherwise, major field choices were fairly stable for the total sample.

The orthopedically disabled were more likely than average to major in engineering, English, and "other" humanities and less likely to major in "other"

Table 39

Actual (1981) Majors of Follow-Up Respondents, by Disability Area, Compared with Intended (1978) Majors of the Total Sample and of the Five Main Groups (percentages)

Major Field[a]	1981 Disability Area										1978 Sample					
	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related	Other	Learning	Speech	Emo-tional	Total	Total Sample	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related
Agriculture	2	2	2	3	2	0	3	0	0	2	2	2	4	2	1	0
Biological sciences	6	4	8	10	6	3	0	5	0	6	6	8	4	9	7	4
Business	16	15	12	19	14	10	20	26	18	15	15	16	13	13	14	22
Education	8	7	13	14	1	2	12	0	0	8	8	7	5	14	12	2
Engineering	12	13	2	7	10	13	3	0	0	9	10	11	16	3	13	8
English	3	4	1	0	0	4	0	0	0	2	2	4	2	1	0	2
Health professions	5	6	8	4	8	1	4	0	0	6	11	10	9	13	13	12
History, political science	7	9	5	4	7	6	9	0	0	6	5	4	9	2	5	4
Humanities (other)	4	6	3	2	1	7	0	5	0	4	3	3	3	3	0	2
Fine arts	7	7	7	6	9	10	15	13	0	8	8	4	8	7	7	13
Mathematics and statistics	1	1	2	2	0	4	0	0	15	2	2	2	2	2	4	1
Physical science	3	1	2	4	3	3	8	16	0	3	3	2	5	1	3	4
Social science	12	12	16	12	14	14	16	0	50	13	8	9	7	9	7	9
Other technical	4	5	12	7	11	7	3	20	0	8	5	4	0	9	3	6
Other nontechnical	7	6	6	5	15	6	6	14	17	8	8	9	8	11	8	5
Undecided	1	0	0	0	0	0	3	0	0	1	3	5	5	1	4	3
N	676	607	564	380	303	259	152	84	33	3,058	3,060	689	623	571	345	316

[a]See Appendix 7 for derivation of these categories.

technical fields and in the health professions. Their actual majors tended to be consistent with their intended majors, though the three-year interval witnessed some changes: Most notable were increases in the proportions naming history/political science and fine arts (from 4 percent in 1978 to 7 percent in 1981 for both fields).

The multiply handicapped were also fairly stable in their major field choices, except that almost twice as many actually majored in social science (16 percent) as had planned to do so (9 percent). In addition, larger-than-average proportions majored in biological science, health professions, "other" technical fields, and education; but relatively few majored in business and engineering.

Like the orthopedically handicapped, those with visual disabilities were somewhat overrepresented in engineering, English, and "other" humanities; in addition, a relatively large proportion majored in history/political science. Smaller-than-average proportions majored in the biological or physical sciences or in "other" technical fields. The major fields gaining "recruits" from among the visually impaired over the three-year span were the social sciences, "other" technical fields, and "other" humanities; the major fields from which they "defected" between 1978 and 1981 included engineering, the health professions, and physical science.

Both the hearing-impaired and those with health-related disabilities were rather unstable in their major field choices. Among the hearing-impaired, the most dramatic changes were an increase for business and decreases for engineering and the health professions. Thus, by 1981, larger-than-average proportions of this group reported majoring in business, education, biological science, physical science, and agriculture; relatively few, however, majored in health professions, history/political science, fine arts, or "other" technical fields.

The most dramatic changes among those with health-related disabilities involved defections from business (from 22 percent in 1978 to 14 percent in 1981) and recruitment to "other" nontechnical fields (from 5 percent in 1978 to 15 percent in 1981, a threefold increase). Thus, respondents with health-related disabilities were more likely than average to major in "other" technical fields, "other" nontechnical fields, and fine arts. Only 1 percent (compared with 8 percent of the total sample) majored in education, and virtually none majored in English or mathematics/statistics.

Career Choice (Table 40)

Consistent with the findings for major field, businessperson was the most common career choice (named by 15 percent of the total sample in 1978 and by 17 percent in 1981). Other popular choices included engineer (10 percent in 1978, 8 percent in 1981), artist (8 percent in 1978, 6 percent in 1981), and elementary/secondary school teacher (8 percent in 1978, 9 percent in 1981). Careers that became less attractive during the undergraduate years (in addition to engineer and artist) were doctor (from 7 percent in 1978 to 4 percent in 1981), health professional (from 8 percent to 4 percent), lawyer (from 5 percent to 3 percent), and nurse (from 4 percent to 3 percent). The loss of interest in these fields corresponds to the decrease in the proportions of respondents planning to get professional degrees. The proportions choosing "other" careers increased from one-fifth to one-third over the three-year interval, whereas the proportion who were undecided decreased (from 10 percent to 8 percent).

Looking at the five main disability groups, we find that those with orthopedic, visual, and hearing disabilities were relatively stable in their career choices, whereas those with multiple and with health-related disabilities had a tendency to change their choices.

Table 40

1981 Career Choices of Follow-Up Respondents, by Disability Area, Compared with 1978 Career Choices of the Total Sample and of the Five Main Groups

Career Choice[a]	1981 Disability Area										1978 Sample					
	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related	Other	Learning	Speech	Emo-tional	Total	Total Sample	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related
Artist	10	6	6	1	8	5	8	0	11	6	8	8	7	11	2	10
Business	17	14	14	19	21	13	22	30	18	17	15	18	12	12	14	20
Clergyman	2	1	0	0	3	1	0	0	0	1	1	2	1	1	0	1
College teacher	0	1	0	1	0	4	0	0	0	1	1	1	1	1	0	0
Doctor	2	4	5	7	1	5	3	6	0	4	7	6	6	10	6	8
Educator (secondary)	3	6	4	4	5	2	0	0	0	4	4	3	5	4	4	1
Educator (elementary)	6	5	6	6	1	2	6	0	0	5	4	5	3	6	4	2
Engineer	11	12	3	6	5	11	3	0	0	8	10	13	12	4	12	8
Farmer/forester	1	2	3	1	0	0	0	0	0	1	1	1	2	1	2	0
Health professional	5	4	3	3	3	10	6	7	0	4	8	6	7	6	12	8
Lawyer	2	3	1	3	5	6	0	0	17	3	5	5	9	4	4	4
Nurse	3	5	3	3	6	2	0	0	0	3	4	5	3	6	3	6
Research scientist	3	0	3	5	8	1	0	26	0	3	3	4	3	2	4	2
Other	30	31	41	32	30	28	38	15	38	33	20	15	18	21	26	18
Undecided	6	7	8	9	4	9	15	15	17	8	10	9	10	10	8	13
N	732	667	610	374	321	274	158	73	33	3,242	3,060	697	602	586	351	327

[a]See Appendix G for derivation of these categories.

The orthopedically disabled were most likely to name artist and health professional as their 1981 career choice; in addition, relatively large proportions planned to become engineers, but relatively few wanted to be doctors or high school teachers. Reversing the general trend, the proportion naming artist as their career choice rose over the three-year interval, whereas the proportion naming businessperson dropped.

Comparatively popular 1981 career choices among the visually impaired were elementary/secondary school teacher, engineer, college teacher, health professional, and nurse. The last of these choices gained in popularity between 1978 and 1981, whereas the choices of lawyer and research scientist became less popular among those with visual impairments. Smaller-than-average proportions in 1981 planned to become businesspersons or research scientists.

The multiply disabled were more likely than others to plan on becoming farmers; in addition, relatively large proportions named doctor or "other" career choices in 1981, whereas relatively few wanted to go into business, engineering, law, or the clergy. The most substantial changes in career choice among the multiply disabled occurred for artist (from 11 percent in 1978 to 6 percent in 1981), doctor (from 10 percent to 5 percent), and "other" (from 21 percent to 41 percent).

Those with hearing impairments were more likely than was any other group to plan on becoming doctors; reversing the trend among other groups, this choice became more popular between 1978 and 1981, as did the choice of businessperson. The career choices of engineer and health professional became less popular. In 1981, larger-than-average proportions of the hearing-impaired wanted to become businesspersons, college teachers, and research scientists, while smaller-than-average proportions opted for the careers

of artist and clergy. Somewhat surprisingly, a slightly larger proportion (9 percent) were undecided in 1981 than in 1978 (8 percent).

The career choices of respondents with health-related disabilities fluctuated considerably between 1978 and 1981. The most dramatic changes included increases in the proportions choosing clergy, high school teacher, and research scientist, and decreases in the proportions choosing doctor, farmer, and health professional. In 1981, relatively large proportions in this group planned to become artists, businesspersons, clergy, lawyers, nurses, and research scientists; relatively few planned to become doctors or elementary school teachers. Only 4 percent (compared with 8 percent of the total sample) were undecided about their future careers.

Chapter 7

Disability-Related Concerns

This chapter discusses responses to the follow-up survey items which asked the disabled some specific questions about the handicap (age of onset, visibility of their condition) and its effects on their functioning. Other areas covered include attitudinal and behavioral barriers and college support services and accommodations. Once again, highlights are presented for the five main disability groups: orthopedic, visual, multiple, hearing, and health-related. Data are presented in the tables for respondents with learning, speech, emotional, and "other" handicaps as well.

About the Disability

Respondents were asked in the follow-up survey to indicate when their disability was disagnosed. Table 41 shows considerable variation within each of the main disability groups as to age of onset. Also covered here are differences by disability area in the extent to which respondents considered their condition to be apparent to others (Table 42).

Age of Onset (Table 41). The largest group, the orthopedically disabled were slightly more likely than average to have been born handicapped (15 percent, compared with 11 percent of the total group) or to have become disabled as teenagers (27 percent, compared with 22 percent of the total group) or adults (22 percent, compared with 14 percent of the total group). Similarly, larger-than-average proportions of those with health-related disabilities said that their problem had been diagnosed either at birth (14 percent) or during adulthood (21 percent). In contrast, relatively few of those with visual or hearing impairments said their condition had been diagnosed prenatally or at

Table 41

Age When Disability was Diagnosed, as Reported by 1981 Follow-up Respondents by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Prenatally or at birth	15	9	12	5	14	13	3	0	0	11
Before age 5	26	35	21	40	27	14	8	39	0	27
Between ages 6-12	10	37	28	38	16	25	47	36	15	27
Between ages 13-17	27	15	21	13	23	26	33	25	18	22
Age 18 or older	22	4	17	4	21	22	8	0.	67	14
N	739	663	622	392	331	283	162	84	33	3,308

birth or during adulthood; about three-fourths of both groups had become disabled between birth and age 12. The range in age of diagnosis was wider for the multiply handicapped: One-third were handicapped by age 5, 28 percent as preadolescents, one-fifth as teenagers, and 17 percent at age 18 or older.

Visibility (Table 42). As would be expected, the disabled varied when asked whether they consider their handicaps to be visible/apparent to others, sometimes apparent and sometimes hidden, or hidden/not obvious. Thus, the orthopedically disabled were almost twice as likely as average (34 percent, compared with 18 percent of the total sample) to say their handicap was obvious. In contrast, almost half of those with health-related disabilities (47 percent, compared with 29 percent of the total sample) felt their condition was not obvious to others. However, 46 percent of the orthopedically disabled, and over half of the remaining major groups, considered the visibility of their handicap to vary, being sometimes hidden and sometimes obvious to others; the hearing-impared were most likely to check this alternative (65 percent).

Effects and Experiences of Being Disabled

One item on the follow-up survey asked respondents to indicate the extent to which their particular disablity affected their overall functioning in college; the response options were "very much," "somewhat," and "not at all." Similarly, drawing on distictions made in a conference report from the Project on the Handicapped in Science (Redden, Davis, & Brown, 1978), another item asked respondents to indicate the extent to which their disability affected their functioning in five different areas: academic, social, recreational/extracurricular, psychological/emotional, and "other." The same report indentifies and discusses attitudes and behaviors which the disabled often encounter in college and which may act as barriers to their participation in science;

Table 42

Visibility of Handicapping Condition, as Reported by 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Visible/apparent	34	13	19	5	2	36	6	13	11	18
Sometimes apparent/sometimes not obvious	46	55	57	65	52	34	54	72	52	53
Hidden/not obvious	19	32	24	30	47	31	40	16	37	29
N	743	663	618	392	331	283	166	84	33	3,312

this information was used to construct a third item on the follow-up survey asking respondents whether they experienced each of a list of 20 attitudes and behaviors "frequently," "occasionally," or "not at all." Responses to these three items are discussed in this section.

Effects on College Functioning (Table 43). Only one-fifth of the total sample felt that their disability "very much" affected their college functioning; slightly more than half (54 percent) checked "somewhat"; and the remaining one-quarter felt that their particular disability had virtually no effect on their functioning in college.

As to differences between the main disability groups, the orthopedically and the visually handicapped were more likely than others to say that their disability did not affect their college functioning at all. Over two-thirds of those with health-related disabilities indicated that their disability had some effect on their functioning; but this group was less likely than others to say that it affected them either "very much" or "not at all." (Note that the multiply disabled have been excluded from this analysis because of difficulties with coding their responses.)

Effects on Different Areas (Table 44). Table 44 demonstrates the value of distinguishing among different areas of functioning and among different types of disability. For instance, the total sample was three times as likely to say the disability very much affected the recreational/extracurricular area (36 percent) as the academic, social, or psychological/emotional area (11-12 percent). Yet only 4 percent of the hearing-impared said that their functioning in extracurricular/recreational activities at college was very much affected by their impairment. On the other hand, the multiply handicapped were at least twice as likely as average to report that their disabilities very much affected

Table 43

Extent to Which Disability Affcted Functioning in College,[a] as Reported by 1981 Follow-up Respondents, by Disability Area (percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Health-Hearing	Related	Other	Learning	Speech	Emotional	Total
Very much	18	19	-	19	16	11	46	28	62	20
Somewhat	52	53	-	62	68	29	54	64	38	54
Not at all	30	28	-	19	17	59	0	8	0	26
N	728	653		392	322	230	156	84	33	2,598

[a]Those with mulitple disabilities were excluded from this table because of coding problems.

Table 44

Extent to Which Disability Affected Functioning in Various Areas, as Reported by 1981 Follow-up Respondents, by Disability Area (percentages)

Area and Extent	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Academic:										
Very much	2	12	24	8	7	4	54	61	27	12
Somewhat	23	46	49	62	30	25	38	39	73	40
Not at all	75	41	28	30	62	71	8	0	0	48
N	734	649	605	392	331	279	166	84	33	3,272
Social:										
Very much	8	7	26	9	12	11	6	8	61	12
Somewhat	44	31	50	54	48	38	27	71	0	43
Not at all	48	62	23	36	40	51	67	21	39	44
N	738	638	598	386	331	271	143	84	33	3,222
Recreational, extracurricular:										
Very much	30	13	38	4	32	22	4	0	32	36
Somewhat	54	42	40	33	49	41	14	8	68	42
Not at all	17	45	22	63	19	36	82	92	0	22
N	738	638	608	382	331	276	147	84	33	3,237
Psychological, emotional										
Very much	4	6	28	1	12	10	7	8	79	11
Somewhat	39	32	40	42	41	37	43	62	21	39
Not at all	57	61	32	57	47	52	50	30	0	50
N	720	638	594	382	326	272	156	84	33	3,205
Other:										
Very much	1	2	10	4	4	5	0	0	15	4
Somewhat	8	8	10	7	18	16	5	8	35	10
Not at all	91	90	80	88	77	79	95	92	50	86
N	750	677	622	392	331	283	166	84	33	3,337

them academically (24 percent), socially (26 percent), and psychologically/emotionally (28 percent).

Although further analyses of these data are included in the major group summaries (Chapter 9), a few other tendencies are worth pointing out here to illustrate differences among the disability groups. A sustantial three-fourths of the orthopedically disabled and 62 percent of those with health-related handicaps (compared with 48 percent of the total group) said that their disability had no effect on their academic functioning; this is consistent with the nature of their handicaps, since neither involves learning modalities. That larger-than-average proportions of the hearing-impared said their disability had some effect on their academic functioning (62 percent, compared with 40 percent of the total sample) and on their social lives (54 percent, compared with 43 percent of the total sample) is to be expected, since hearing impairments typically interfere with expressive and receptive communication; relatively few of the hearing-impaired, however, said that their functioning in these areas was "very much" affected.

Attitudinal and Behavioral Barriers (Table 45). The proportions of respondents reporting that they "frequently" experienced each of 20 attitudinal or behavioral barriers at college are shown in Table 45. (Not shown are the proportions checking the alternative response options of "occasionally" and "seldom or never".) Two points emerge from this analysis. First, these disabled respondents did not often encounter the attitudinal or behavioral barriers listed on the follow-up survey. Over one-third of the total group (36 percent), ranging from 29 percent of the visually impaired to 50 percent of the multiply disabled, said that "frequently" they can handle risk better and are more independent than others realize; but this statement does not describe an

Table 45

Attitudes and Behaviors Encountered at College, as Reported by 1981 Follow-up Respondents, by Disability Area
(percentages marking "frequently")

Attitudes and Behaviors	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Faculty/staff underestimate my academic ability or potential	4	3	16	5	3	13	12	8	0	7
Faculty/staff overestimate my academic ability or potential	2	3	5	3	2	3	9	0	0	3
People underestimate my ability to handle frustration and stress	8	5	14	4	7	8	9	0	17	8
People overestimate my ability to handle frustration and stress	5	5	14	6	4	4	6	8	35	7
Faculty/staff ask me irrelevant or overly personal questions about my disability	3	1	7	1	0	0	3	14	0	3
Other students ask me irrelevant or overly personal questions about my disability	2	2	7	4	2	4	3	0	0	3
Because faculty/staff don't ask me meaningful questions about my disability, I must anticipate and answer such questions	3	5	9	5	6	4	10	0	0	5
Because other students don't ask me meaningful questions about my disability, I must anticipate and answer such questions	6	6	3	7	5	6	0	0	0	5
The failure of my instructors to accomodate to my disability-related needs makes academic work more difficult	1	9	16	11	9	5	35	0	0	9
I can handle risk better and am more independent than most people realize	34	29	50	37	38	32	43	14	0	36
People patronize me or talk to me as if I were a child	4	3	12	6	0	4	6	0	0	5
People talk about me rather than to me	3	5	14	7	2	5	0	8	0	6
My instructors avoid or ignore me	0	1	4	5	2	0	0	8	0	2
Other students avoid or ignore me	2	3	7	3	0	1	2	0	0	3
Faculty/staff make me feel that I cause them extra time and trouble	0	2	6	3	3	0	8	0	15	3
Other students make me feel that I cause them extra time and trouble	1	0	3	2	0	0	6	0	15	1
Because I have a disability, people assume that:										
I have other physical disabilities that I do not have	4	4	12	4	4	7	3	8	0	6
I am limited socially	5	4	20	5	6	5	10	0	0	8
I am limited in what I can do physically	24	7	30	3	19	11	3	0	0	16
I am limited in what I can do intellectually and academically	3	3	10	6	0	3	26	22	0	8

actual barrier as do most of the other statements listed. Fewer than one in ten of the total sample checked "frequently" for most of the other statements.

Second, the multiply disabled stand in contrast to the other four main disability groups in that they were at least twice as likely as average to experience a given attitudinal or behavioral barrier "frequently": for instance, being asked irrelevant or overly personal questions about their disability (7 percent, compared with 3 percent of the total sample); being patronized or talked to as if they were children (12 percent, compared with 5 percent of the total sample); and having people assume that because they are disabled they are limited socially (20 percent, versus 8 percent of the total sample).

College Support Services and Accommodations

To aid policymakers and educators alike, one item on the follow-up survey listed 29 specific support services and accommodations; respondents were asked to indicate for each (1) whether they used it, (b) whether they would have used it if it had been available, or (c) whether they did not use it because it was irrelevant to them. It was generally found that, except for a few standard services which are usually available to all college students on all campuses (e.g., academic advising, financial aid for college expenses, campus orientation, nondisabled clubs), at least two-thirds of the total sample said that the support service or accommodation was not relevant to them. Moreover, the services they were most likely either to use or to say they would use if available were precisely those that are usually available to the able-bodied. Of course, these handicapped respondents had entered college prior to full implementation of Section 504 of the Rehabilitation Act of 1973; thus, one would expect mainstreamed functioning, adaptiveness, and resourcefulness to be

part of their repertoire. Had this question been asked of disabled students entering the higher education system after June 1980, the results might have been different, especially if the mandate was effective in enabling a larger proportion of the handicapped population to attend college.

The remainder of this section describes differences among the five main disability groups in their responses to this item. The three response alternatives are treated separately.

Utilization of Services (Table 46). As was pointed out above, disabled respondents were most likely to use standard services available to all students at most colleges: financial aid for college expenses (56 percent of the total sample), academic advising (55 percent), campus orientation (48 percent), nondisabled student clubs and organizations (44 percent), existing architectural accommodations (29 percent), financial aid for cost-of-living expenses (29 percent), vocational counseling (29 percent), personal counseling or therapy (18 percent), and transportation (18 percent). Not surprisingly, some disability groups were more likely to use these services than others. For instance, the orthopedically handicapped were more likely than those in the four other main disability groups to use existing architectural accommodations. Consistent with their greater dependency and poorer academic performance, the multiply handicapped were more likely than others to use academic advising, vocational advising, and personal counseling or therapy.

Moreover, some disability groups were more likely than others to use support services and accommodations particularly intended for the disabled. For instance, 20 percent of the orthopedically disabled and 16 percent of the multiply handicapped (compared with 7 percent of the visually impaired, 3 percent of the respondents with health-related disabilities, and none of the

Table 46

Utilized College Support Services and Accommodations, as Reported by 1981 Follow-up Respondents, by Disability Area
(percentages)

Support Services and Accommodations	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Existing architectural accommodations (e.g., elevators, stair railings)	52	20	38	6	16	39	9	12	0	29
Adaptive architectural accommodations (e.g., ramps, adapted restroom facilities)	20	7	16	0	3	14	3	0	0	11
Adaptive equipment, assistive devices (e.g., tape recorders, braille)	4	21	21	13	1	6	23	0	0	12
Support service personnel (e.g., interpreters, readers, attendants)	3	10	8	5	2	0	12	0	0	6
Instructional accommodations	7	8	17	8	9	4	20	0	0	9
Time accommodations	8	13	15	2	6	2	23	0	17	10
Program accommodations	8	6	7	5	8	8	24	0	0	8
Performance evaluation accommodations	4	6	6	3	6	10	12	0	0	6
Adaptive physical education	13	5	7	2	11	7	5	0	0	7
Peer counseling from disabled students	2	1	4	2	3	0	6	0	0	2
Peer counseling from nondisabled students	10	15	14	11	10	8	10	0	0	12
Academic advising	54	56	63	54	58	55	45	22	45	55
Personal counseling, therapy	10	13	32	17	14	20	21	0	45	18
Vocational counseling	31	27	38	21	32	25	27	6	28	29
Repair services for assistive devices	4	4	5	4	0	2	0	0	0	3
Disabled student organizations, clubs	4	6	4	6	3	2	4	0	0	4
Nondisabled student organizations, clubs	51	51	42	52	44	53	22	24	34	44
Disabled student office, advocate	6	6	6	4	2	2	4	0	0	5
Legal services	5	5	6	4	2	2	0	0	0	4
Adaptive admissions criteria	2	4	6	1	3	2	9	0	0	3
Adaptive admissions procedures	3	5	7	2	3	2	2	0	0	4
Campus orientation	47	49	51	51	53	54	26	20	34	48
Financial aid for college expenses (e.g., tuition, books)	58	60	53	60	60	64	11	72	46	56
Financial aid for cost-of-living expenses (e.g., food, rent)	27	37	27	31	25	32	6	40	35	29
Financial aid for disability-related expenses	12	14	16	11	15	9	3	13	0	12
Transportation	18	16	21	18	20	17	14	8	29	18
Special parking	19	4	11	0	10	12	0	0	0	9
Registration priority	10	8	10	5	6	11	6	0	0	8
Other	3	0	1	2	0	0	2	0	0	1

N

hearing impaired) used adaptive architectural accommodations. These two groups were also more likely to use special parking. One-fifth of the visually impaired and the multiply disabled (compared with 12 percent of the total sample) used adaptive equipment or assistive devices. In general, the multiply handicapped made the greatest use of the special services listed, including those involving instructional and time accommodations and peer counseling from disabled students. At the other end of the spectrum, respondents with health-related handicaps were less likely than average to use most of the special accommodations or support services. This finding is consistent with the nature of their disability.

Needed Services (Table 47). The college support services and accommodations which disabled respondents were most likely to say they would use if they were available were financial aid for cost-of-living expenses (25 percent of the total sample) and financial aid for disability-related expenses (21 percent). Especially likely to say they could have used these funds were the multiply handicapped and those with health-related disabilities; this is consistent with the higher proportions of these groups who said they were "very much" concerned about expenses associated with their disability. Again, the multiply handicapped were about twice as likely as average to say they would have used a given accommodation if it had been available at their campuses. Conversely, the hearing-impaired were least likely to indicate a need for a variety of services listed (e.g., accommodations for instruction, time, program, or performance evaluation). Relatively few of the orthopedically handicapped expressed a need for adaptive equipment or assistive devices, additional support services personnel, or special accommodations in time, program, or performance evaluation; however, one-fourth compared with 13 percent of the total sample would have taken adaptive physical education, if it had been available.

Table 47

Needed College Support Services and Accommodations, as Reported by 1981 Follow-up Respondents, by Disability Area
(percentages)

Would Use Support Services and Accommodations	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Existing architectural accommodations (e.g., elevators, stair railings)	3	2	3	2	6	1	0	0	0	3
Adaptive architectural accommodations (e.g., ramps, adapted restroom facilities)	4	0	2	2	1	2	0	0	0	2
Adaptive equipment, assistive devices (e.g., tape recorders, braille)	1	4	10	10	0	3	10	0	0	5
Support service personnel (e.g., interpreters, readers, attendants)	1	4	9	7	0	2	28	0	0	5
Instructional accommodations	5	10	20	5	6	6	35	13	0	10
Time accommodations	10	10	22	2	10	8	26	0	0	11
Program accommodations	6	7	23	4	9	5	37	0	0	10
Performance evaluation accommodations	6	8	24	7	8	7	22	0	0	11
Adaptive physical education	25	9	14	2	8	16	7	0	0	13
Peer counseling from disabled students	9	6	24	5	8	6	16	0	15	10
Peer counseling from nondisabled students	8	8	18	2	8	8	13	0	17	9
Academic advising	5	6	14	7	6	3	25	13	0	8
Personal counseling, therapy	8	5	21	4	9	7	14	31	0	10
Vocational counseling	8	10	13	4	5	3	10	0	18	9
Repair services for assistive devices	5	5	9	11	5	6	0	0	0	6
Disabled student organizations, clubs	11	6	21	4	7	11	16	0	0	11
Nondisabled student organizations, clubs	2	2	8	4	4	2	13	0	18	5
Disabled student office, advocate	10	10	24	4	10	8	14	0	0	12
Legal services	8	11	16	5	11	12	8	0	18	10
Adaptive admissions criteria	7	6	13	1	5	6	10	0	0	7
Adaptive admissions procedures	7	7	17	3	5	8	8	0	0	8
Campus orientation	5	4	7	1	2	3	3	0	0	4
Financial aid for college expenses (e.g., tuition, books)	11	15	24	14	16	11	24	0	0	15
Financial aid for cost-of-living expenses (e.g., food, rent)	26	18	35	26	30	17	18	5	0	25
Financial aid for disability-related expenses	16	14	32	22	26	16	28	0	18	21
Transportation	18	15	26	9	13	24	8	5	0	17
Special parking	10	5	12	4	12	12	0	5	0	8
Registration priority	18	9	22	5	17	14	12	6	0	14
Other	3	3	6	0	3	0	0	0	0	3
N										

Irrelevant Services (Table 48). The proportions of disabled students saying that the support services and accommodations were irrelevant to their needs are shown in Table 48. Most likely to be regarded as irrelevant were repair services for assistive devices (91 percent of the total sample), adaptive admissions criteria (90 percent), support service personnel (89 percent), adaptive architectural accommodations (88 percent), adaptive admissions procedures (88 percent), peer counseling from disabled students (87 percent), and legal services (86 percent).

The findings from these analyses reinforce earlier findings and make it clear that those with different disabilities have different needs and would benefit from different types of services.

Table 48

Irrelevant College Support Services and Accommodations, as Reported by 1981 Follow-up Respondents, by Disability Area
(percentages)

Do (Did) Not Use Support Services and Accommodations	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Existing architectural accommodations (e.g., elevators, stair railings)	45	78	59	92	78	60	91	88	100	68
Adaptive architectural accommodations (e.g., ramps, adapted restroom facilities)	76	92	82	98	96	85	96	100	100	88
Adaptive equipment, assistive devices (e.g., tape recorders, braille)	95	74	69	77	99	91	67	100	100	83
Support service personnel (e.g., interpreters, readers, attendants)	96	85	82	88	98	98	60	100	100	89
Instructional accommodations	83	82	63	87	85	90	45	87	100	75
Time accommodations	82	78	64	97	84	90	51	100	83	79
Program accommodations	86	87	69	92	84	88	39	100	100	82
Performance evaluation accommodations	90	87	70	90	86	83	66	100	100	84
Adaptive physical education	62	86	79	96	81	77	88	100	100	80
Peer counseling from disabled students	89	93	74	93	89	94	78	100	85	87
Peer counseling from nondisabled students	82	77	67	87	81	84	77	100	83	79
Academic advising	42	38	23	39	37	42	29	65	55	37
Personal counseling, therapy	81	82	47	80	77	72	66	69	55	72
Vocational counseling	61	63	50	74	58	72	63	94	54	62
Repair services for assistive devices	91	91	86	85	95	92	100	100	100	91
Disabled student organizations, clubs	85	88	75	91	90	87	80	100	100	85
Nondisabled student organizations, clubs	48	48	50	44	53	45	64	76	48	51
Disabled student office, advocate	83	85	71	92	89	90	82	100	100	84
Legal services	87	84	78	91	88	86	92	100	82	86
Adaptive admissions criteria	90	91	81	99	92	92	81	100	100	90
Adaptive admissions procedures	90	88	77	94	92	90	90	100	100	88
Campus orientation	47	48	41	48	45	43	71	80	66	47
Financial aid for college expenses (e.g., tuition, books)	31	25	23	26	24	25	65	28	54	28
Financial aid for cost-of-living expenses (e.g., food, rent)	47	45	38	43	45	50	76	54	65	46
Financial aid for disability-related expenses	72	72	52	67	58	75	69	87	82	67
Transportation	64	69	53	73	68	59	78	87	71	65
Special parking	71	91	77	96	78	75	100	95	100	82
Registration priority	72	83	68	90	77	75	81	94	100	77
Other	94	97	93	99	97	100	98	100	100	96
N										

Chapter 8

Personal Issues

This chapter covers items of a more personal nature, including political orientation, life goals, self-ratings, and preferred life patterns. The first two items were included on the 1978 SIF and repeated on the 1981 follow-up survey. The last two, though intermittently appearing on the CIRP freshman survey questionnaires, were not included on the 1978 SIF. Again, only the five largest disability groups are discussed (respondents with orthopedic, visual, multiple, hearing or health-related handicaps), though data on all groups are shown in the tables.

Political Orientation, 1978 and 1981 (Table 49)

Overall, the political orientation of the disabled sample changed very little between 1978 and 1981: In both years, about half considered themselves to be "middle-of-the-road," slightly less than one-fourth saw themselves as liberal and an equal proportion saw themselves as conservative, while very few (1-4 percent) were either far left or far right. However, as Table 49 shows, the disability groups differed in their 1981 political composition and in the extent to which they had changed their political views since 1978.

The orthopedically disabled (who were more likely than others to be older and married) were most likely to be middle-of-the-road or conservative in 1981. In addition, the proportion saying they were liberal dropped from 24 percent in 1978 to 17 percent in 1981, whereas the proportion saying they were conservative increased from 19 percent to 27 percent. A relatively large proportion of the hearing-impaired also characterized themselves as middle-of-the-road in 1981, though the proportion espousing that point of view dropped from 61 percent in

Table 49

1981 Political Orientation of 1981 Follow-up Respondents, by Disability Area, Compared with 1978 Political Orientation of the Total Sample and of the Five Main Groups

	1981 Disability Area										1978 Sample					
	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related	Other	Learning	Speech	Emo-tional	Total	Total Sample	Ortho-pedic	Visual	Mul-tiple	Hearing	Health-Related
Far left	0	5	7	3	3	4	0	0	15	4	3	1	5	3	2	2
Liberal	17	35	21	17	23	21	28	37	38	24	22	24	36	22	24	24
Middle-of-the-road	55	40	43	54	49	57	32	58	29	49	49	57	41	49	61	59
Conservative	27	21	24	24	23	18	33	5	17	24	23	19	18	23	13	14
Far right	0	0	1	1	2	0	6	0	0	1	2	0	0	2	0	2
N	734	665	617	386	314	279	166	84	33	3,277	3,176	723	652	596	374	315

1978 to 54 percent in 1981. Like the orthopedically disabled, the hearing-impaired exhibited a definite shift from liberalism to conservatism over the three-year period. Similarly, the proportions of respondents with health-related disabilities saying they were conservative increased from 14 percent in 1978 to 23 percent in 1981, whereas the proportion saying they were middle-of-the-road decreased from 59 percent to 49 percent; in their 1981 distribution, however, this group resembled the norm.

The groups least likely to change in political orientation were the visually and the multiply disabled. The visually impaired were more likely than others to characterize themselves as liberal both in 1978 and in 1981. Correspondingly, they were less likely than others to call themselves middle-of-the-road or conservative in 1981. Nonetheless, the greatest change for this group was an increase in the proportion saying they were conservative: from 18 percent in 1978 to 21 percent in 1981. The distribution of the multiply disabled changed very little over the three-year interval, and it resembled the norm in both years, except that 7 percent characterized themselves as far left in 1981, compared with only 3 percent in 1978.

Thus, the most notable change was a shift toward greater conservatism (as seems to be true of the country as a whole), and this shift was most marked among the hearing-impaired, those with health-related disabilities, and those with orthopedic handicaps.

Life Goals (Table 50)

Both the 1978 and the 1981 survey questionnaires included a list of life goals that respondents were asked to rate. The response options on the 1978 SIF were "essential," "very important," "somewhat important," and "not important"; on the 1981 follow-up survey, only three response options were offered:

Table 50

1981 Life Goals of Follow-Up Respondents, by Disability Area,
Compared with 1978 Life Goals of the Total Sample and of the Five Main Groups
(percentages marking "essential")

	1981 Disability Area										
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total	Total Sample
Becoming accomplished in one of the performing arts (acting, dancing, etc.)	2	5	11	4	8	9	3	13	11	6	7
Becoming an authority in my field	33	33	36	32	26	37	25	32	11	32	32
Obtaining recognition from my colleagues for contributions to my special field	23	25	27	18	24	30	20	8	11	24	15
Influencing the political structure	6	8	10	6	5	10	8	0	0	7	4
Influencing social values	12	18	21	22	15	16	17	0	17	16	8
Raising a family	36	43	31	45	21	41	31	44	0	36	20
Having administrative responsibility for the work of others	16	13	20	14	21	20	18	13	0	17	8
Being very well-off financially	21	27	27	31	26	12	24	26	17	25	18
Helping others who are in difficulty	38	40	52	50	41	36	38	14	50	42	26
Making a theoretical contribution to science	6	5	7	9	8	0	7	0	0	6	5
Writing original works (poems, novels, short stories, etc.)	9	12	14	10	8	10	2	8	28	11	6
Creating artistic work (painting, sculpture, decorating, etc.)	10	10	16	12	10	12	19	0	11	12	7
Being successful in a business of my own	15	21	22	20	16	18	20	39	18	19	19
Becoming involved in programs to clean up the enviornment	4	14	13	16	7	11	6	0	0	10	7
Developing a meaningful philosophy of life	37	50	48	36	45	44	36	17	50	42	29
Participating in a community action program	8	8	17	17	12	16	14	0	28	12	7
Helping to promote racial understanding	13	20	22	20	15	21	10	5	17	18	13
Keeping up-to-date with political affairs	27	16	24	20	24	25	16	13	56	20	16
Helping to promote the interests of the disabled	20	19	37	26	25	28	10	0	28	24	a

[a]Not on the 1978 SIF.

"essential," "important," and "not important." In addition, the 1981 questionnaire included one life goal that was not on the 1978 SIF: "helping to promote the interests of the disabled."

Table 50 shows the proportions of each disability group who indicated in 1981 that a goal was "essential"; it also shows the proportions for the total sample in 1978 and in 1981, so overall changes during the three-year interval can be assessed.

The same goals ranked among the top four in both years, although their order changed slightly: becoming an authority in one's field (ranked first in 1978 and fourth in 1981); developing a meaningful philosophy of life (ranked second in 1978 and tied for first in 1981); helping others who are in difficulty (ranked third in 1978 and tied for first in 1981); and raising a family (ranked fourth in 1978 and third in 1981). In neither year did more than 15 percent of the total sample give highest priority to the goals of becoming accomplished in one of the performing arts, influencing the political structure, making a theoretical contribution to science, writing original works, creating artistic works, or becoming involved in programs to clean up the environment.

Somewhat surprisingly, the proportions saying that a goal was essential increased on 15 of the 18 goals common to both questionnaires. Whether these increases represent a general elevation in aspirations over time or are simply the result of the telescoping of response option (from four to three) is difficult to say. If the former, one might infer that exposure to the college environment has the general effect of broadening the individual's horizons and strengthening drive to achieve.

Comparing the 1981 responses of the five main disability groups, one finds some suggestive differences. The multiply disabled were more likely than

average to say that a given goal was essential to them, the only exception being the goal of raising a family. Thus, larger proportions than of any other group placed high value on becoming accomplished in a performing art, becoming an authority in one's field, obtaining recognition from colleagues for contributions to one's field, influencing the political structure, helping others in difficulty, writing original works, creating artistic works, being successful in one's own business, promoting racial understanding, and helping to promote the interests of the disabled. In view of their multiple disabilities, the wide-ranging aspirations of these respondents may be somewhat unrealistic. Those with hearing impairments show a similar tendency to endorse a variety of goals; thus, they were more likely than others to rate as essential the goals of influencing social values, raising a family, being very well-off financially, making a theoretical contribution to science, becoming involved in programs to clean up the environment, and participating in community action programs. Relatively few, however, were concerned with winning recognition from colleagues, having administrative reponsibility, or developing a meaningful philosophy.

Those with orthopedic and with health-related disabilities exhibited the opposite tendency; that is, the proportions of these groups rating a given goal as essential tended to be smaller than average. The only exceptions were keeping up-to-date with political affairs (in the case of the orthopedically disabled) and becoming accomplished in a performing art and having administrative responsibility over the work of others (in the case of those with health-related handicaps).

The visually disabled were between these two extremes. Larger-than-average proportions gave highest priority to winning recognition from colleagues, raising a family, becoming involved in programs to clean up the environment,

and developing a meaningful philosophy; but relatively few wanted to have administrative responsibility, contribute to science, participate in community action programs, keep up-to-date with political affairs, and help promote the interests of the disabled.

Self-Ratings (Table 51)

Offering the response options of "above average," "average," and "below average," the follow-up survey asked respondents to rate themselves on 22 traits compared with the average person of their own age. Table 51 shows the proportions in each disability group rating themselves as "above average." The majority of respondents in the total sample (and in nearly all the five main disability groups) rated themselves as above average in understanding of others (64 percent), drive to achieve (56 percent), academic ability (53 percent), and sense of humor (51 percent).

Perhaps because of the nature of their handicaps and their success in college, those with health-related disabilities had the most positive self-image, being the most likely to see themselves as above average in academic ability, artistic ability, leadership ability, intellectual self-confidence, writing ability, stubbornness, physical attractiveness, and political conservatism. Only on originality and understanding of others were they inclined to give themselves relatively low ratings. Similarly, the hearing-impaired manifested considerable self-esteem, with larger-than-average proportions rating themselves high on academic ability, athletic ability, physical attractiveness, popularity, popularity with the opposite sex, and understanding of others. However, they also tended to see themselves as sensitive to criticism and as lacking in social self-confidence, artistic ability, and public speaking ability.

Table 51

Self-Ratings of 1981 Follow-up Respondents
by Disability Area
(percentages marking "above average")

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Academic ability	51	54	50	58	64	66	28	46	17	53
Athletic ability	9	18	16	31	18	16	38	19	0	18
Artistic ability	25	25	30	19	30	24	39	36	29	27
Defensiveness	15	16	27	22	31	12	28	21	44	21
Drive to achieve	60	57	56	56	53	53	45	65	35	56
Leadership ability	43	40	33	35	46	50	28	34	18	39
Mathematical ability	38	40	23	32	38	36	30	54	11	34
Mechanical ability	26	23	19	19	25	30	11	15	0	22
Originality	41	46	49	42	35	43	46	36	29	43
Physical attractiveness	14	22	18	27	30	26	37	31	35	22
Political conservatism	10	9	11	15	19	8	20	5	17	12
Political liberalism	12	22	15	14	14	24	12	11	48	16
Popularity	23	14	12	24	19	30	23	15	18	19
Popularity with opposite sex	16	14	17	20	17	23	16	20	35	17
Public speaking ability	27	31	22	20	28	23	16	21	17	25
Self-confidence (intellectual)	46	41	40	41	52	52	34	39	35	44
Self-confidence (social)	31	28	17	18	25	25	30	13	18	24
Sense of humor	49	57	41	52	55	60	48	47	52	51
Sensitivity to criticism	17	31	30	37	30	40	23	13	27	28
Stubbornness	36	33	41	37	43	33	35	44	62	39
Understanding of others	63	60	68	70	54	70	68	46	47	64
Writing ability	43	40	33	43	51	35	14	34	45	39

At the other end of the spectrum, the multiply disabled projected the least favorable self-image: Though relatively large proportions rated themselves high on artistic ability, originality, and defensiveness (hardly a desirable trait), relatively few saw themselves as having academic ability, leadership ability, mathematical ability, physical attractiveness, popularity, social self-confidence, writing ability, and a sense of humor.

Between these two extremes were the orthopedically handicapped and the visually impaired. Consistent with the nature of their disability, relatively few of the former group saw themselves as athletically able. They were, however, inclined to see themselves as popular, socially self-confident, having mechanical ability and drive to achieve, and lacking in defensiveness and sensitivity to self-criticism. Those with visual handicaps were more likely than average to see themselves as superior in mathematical ability, public speaking ability, sense of humor, and (consistent with the data on political orientation) political liberalism; relatively few perceived themselves as defensive, politically conservative, or popular with the opposite sex.

Preferred Life Patterns (Table 52)

The 1981 follow-up questionnaire asked respondents to indicate the life pattern (with respect to marriage, children, and employment) they would prefer to have in ten or fifteen years. As Table 52 shows, the majority of the follow-up respondents (and of each of the five main groups) wanted to be married, raising children, and involved in a full-time career. Some differences between the groups are worth pointing out.

While a larger-than-average proportion of respondents with health-related disabilities were married by 1981 (12 percent), only 5 percent had children and

Table 52

Preferred Life Patterns of 1981 Follow-up Respondents
by Disability Area
(percentages)

	1981 Disability Area									
	Orthopedic	Visual	Multiple	Hearing	Health-Related	Other	Learning	Speech	Emotional	Total
Marital Status										
Single	4	8	4	8	6	8	7	8	0	6
Married	90	85	87	85	87	83	88	92	51	87
Living with a person of the opposite sex but not married	6	4	8	4	3	9	5	0	17	6
Other	0	4	1	3	4	0	0	0	32	2
N	747	671	618	389	323	274	152	84	33	3,291
Children										
No children	14	15	16	13	24	17	12	8	50	16
One child	14	7	12	7	12	4	20	0	17	10
Two children	47	53	40	51	44	56	38	73	0	48
Three or more children	19	24	23	21	13	16	30	6	33	20
Adopt one or more children	6	1	9	8	7	6	0	13	0	6
N	725	639	596	380	300	274	152	84	33	3,183
Career										
Full-time career	82	82	76	78	73	78	68	100	79	79
Part-time career	16	18	23	18	25	18	26	0	21	19
Not employed	2	0	1	3	2	4	6	0	0	2
N	693	639	594	362	298	232	158	84	33	3,094

one-fourth (compared with 16 percent of the total sample) said they did not want children in the future. Moreover, one-fourth (compared with 19 percent of the total sample) wanted only part-time careers. It makes logical sense (considering their high academic achievements and aspirations yet propensity to "stop out" of college) that the demands of either children or full-time careers may be too much for some respondents with health-related problems. Although the proportion of the multiply handicapped saying they did not want children was about average, the proportion wanting only part-time careers was somewhat higher than average. The visually disabled, who tended to be young, were more likely than average to want at least two children of their own (77 percent, compared with 68 percent of the total sample) but less likely than average to plan on adopting children (1 percent, compared with 6 percent of the total sample).

Chapter 9

Summary Profiles of the Five Main Disability Groups

This chapter presents summary profiles of the five main disability groups identified through the 1981 follow-up survey: the orthopedically handicapped, the visually impaired, the multiply disabled, the hearing-impaired, and those with health-related disabilities.

Orthopedic Disability

The orthopedically disabled constituted the largest group of 1981 follow-up respondents: 750, or 22 percent of the total sample. Women outnumbered men by about three to two. This group included relatively large proportions of "nontraditional" students: 11 percent were age 30 or older at the time of the follow-up survey (16 percent had been nonfreshmen in 1978); only 84 percent (compared with 89 percent of the total sample) were single; of the married group, one-fourth were separated, divorced or widowed; 13 percent had children; and 7 percent were veterans. (Indeed, one-third of all the veterans in the sample had orthopedic handicaps.) Relatively large proportions were Protestant, Jewish, or undecided as to religious preference in 1981; relatively few were Catholic. Hispanics and Whites were more likely than average, and Blacks and Orientals less likely than average, to have orthopedic disabilities.

Perhaps because of their slight tendency not to have taken a college preparatory program in high school and their relatively poor high school grades (19 percent, compared with 15 percent of the total sample, earned no more than a C+ average), the orthopedically disabled were somewhat more likely than average to have entered public two-year colleges in 1978, though 11 percent (compared with 9 percent of the total sample) had enrolled in private universities; they were underrepresented, however, in both public and private four-year

colleges. At the time of the follow-up survey, 10 percent indicated they had permanently withdrawn from college (though some of these may have been persons who aspired to no more than an associate degree and who had completed their programs, rather than dropouts); 73 percent were currently enrolled; and 44 percent had achieved senior status. Their college grades tended to be fairly high, with 74 percent (compared with 69 percent of the total sample) earning A or B averages. A larger-than-average proportion had not been employed during college, and a lower-than-average proportion had worked at part-time, on-campus jobs. Though one-fourth (compared with 17 percent of the total sample) reported annual incomes of $10,000 or more, half (compared with 46 percent of all respondents) were very much concerned about their ability to pay for college; this concern may be attributable to their greater tendency to be married and to have children. Relatively few had failed one or more courses, served on a campus committee, or participated in student demonstrations during college, and a larger-than-average proportion expressed satisfaction with college.

During the college years, the orthopedically disabled tended to have raised their degree aspirations; in 1981, 46 percent (compared with 40 percent of the total group) aspired to a master's degree, though relatively few aimed for a doctorate. Engineering was more popular as both a major field and a career choice with the orthopedically disabled than with most other groups; in addition, larger-than-average proportions wanted to be artists and health professionals.

The orthopedic disability was likely to have been diagnosed either prenatally/at birth or after age 12; one-third (compared with 18 percent of the total sample) regarded their handicap as visible. However, a larger-than-

average proportion indicated that their disability did not affect their general college functioning; such effects were most apt to occur in the recreational/extracurricular area. Though more likely than average to use support services and accommodations designed to enhance mobility (existing and adaptive architectural accommodations, adaptive physical education, special parking), the orthopedically impaired were also more likely than average to indicate that some services (instructional, time, and performance accommodations; personal counseling and therapy) were irrelevant to them.

Consistent with the larger-than-average proportions of older respondents, the orthopedically impaired were more likely than others to regard themselves as middle-of-the-road or conservative in political orientation and to have shifted to the right during the three years since matriculation. Though more likely than average to say that keeping up-to-date with political affairs was an essential goal, they were less likely than average to value other goals. Their self-image tended to be positive; while most gave themselves low ratings on athletic ability, they were more likely than average to see themselves as having mechanical ability and a drive to achieve, being popular and socially self-confident, and lacking in defensiveness and sensitivity to criticism.

Visual Disability

The visually impaired, who constituted one-fifth of the total follow-up sample (677 respondents), stand out for their progress and persistence in college. In contrast to other groups, the majority (53 percent) were men. They resembled the traditional undergraduate in that relatively few were age 30 or over, had served in the military, were married, or had children at the time of the follow-up survey. They were more likely than average to say they had no

current religious preference and less likely than average to say they were born-again Christians. The frequency of visual disabilities is relatively high among Blacks and Orientals and relatively low among Hispanics.

The visually disabled were distinguished by their outstanding records both in high school and in college: 92 percent (compared with 86 percent of the total sample) had taken college preparatory courses, and over one-third (compared with 27 percent of the total sample) earned A averages in high school. They were more likely than others to have enrolled in a private four-year college in 1978 and less likely to have entered a public two-year college. Larger-than-average proportions had attended only one higher education institution, had been enrolled continuously since 1978, and so had attained senior status; and 19 percent (compared with 16 percent of the total sample) had earned A averages in college. The visually disabled were also more likely than average to live in college housing, to have nondisabled roommates, to change major fields, to serve on campus committees, to get a job to help pay for college expenses, to participate in protests or demonstrations, and to feel satisfied with college. Though fairly well-off in terms of income, only 14 percent (compared with 20 percent of the total sample) said they were not at all concerned about their ability to pay for college. They more frequently cited federal college-related aid, Vocational Rehabilitation funds, and Supplementary Support Income as sources of college support than did most others. Relatively few had a mentor during the college years, but those who named such a person were more likely than average to say that the mentor was female and disabled.

Like the orthopedically disabled, the visually impaired were likely to

have raised their degree aspirations during the undergraduate years from the baccalaureate to the master's degree, but the proportions aspiring to a professional degree decreased from 19 percent to 8 percent over the three-year interval. Consistent with this change, the proportions planning to become doctors and lawyers dropped. They were somewhat more likely than average to major in engineering, English, history/political science, and "other" humanities, but less likely than average to major in biological or physical sciences. Career choices especially popular with the visually impaired included elementary or high school teacher, engineer, college teacher, health professional, and nurse; but relatively few wanted to become businesspersons or research scientists.

Close to three-fourths (72 percent, compared with 54 percent of the total sample) said their visual disability had been diagnosed at some point between infancy and age 12 and larger-than-average proportions indicated that it had at least some effect on their academic functioning but that it affected their functioning in social, recreational, psychological/emotional, and "other" areas not at all. Support services more frequently used by the visually disabled than by most others included adaptive equipment and assistive devices, support service personnel, time accommodations, peer counseling from the nondisabled, and both nondisabled and disabled student organizations; support services more frequently cited as irrelevant included existing and adaptive architectural accommodations, instructional accommodations, personal counseling and therapy, and special parking.

Both in 1978 and in 1981, the visually impaired were more likely than any other of the five main disability groups to characterize themselves as liberal;

in addition, 5 percent in both years said they were far left in political orientation. This liberalism is consistent with their greater tendency to say that becoming involved in programs to clean up the environment was essential to them; other goals they were especially likely to consider essential were raising a family and developing a meaningful philosophy of life. The visually disabled tended to rate themselves high on mathematical and public speaking ability, liberalism, and sense of humor; relatively few saw themselves as defensive, conservative, or popular with the opposite sex.

Multiple Disabilities

Six hundred and twenty-two respondents to the follow-up survey (19 percent) indicated that they had more than one disability. As in the orthopedically disabled group, women outnumbered men by three to two. The multiply disabled shared other characteristics with the orthopedically disabled. For instance, relatively large proportions were "nontraditional" students: 23 percent (compared with 14 percent of the total sample) were over age 22 at the time of the follow-up survey; only 86 percent were single; of the married group, one-third were divorced, widowed, or separated; 12 percent had children. The multiply disabled constituted 29 percent of the veterans. Close to one-third (32 percent, compared with 26 percent of the total sample) regarded themselves as born-again Christians. Blacks and those of "other" racial/ethnic backgrounds were more likely than average, and Hispanics less likely than average, to be multiply disabled.

Only about two-thirds (compared with four-fifths of the total sample) had been mainstreamed during their earlier schooling, and their high school grades

tended to be relatively low. Thus, it is not surprising that they were less likely than average to have persisted continuously since 1978 and more likely to have stopped out; only 38 percent (compared with 48 percent of the total sample) were seniors at the time of the follow-up survey. Though their institutional distribution in 1978 resembled the norm, about one-third had attended more than one institution; they were less likely than others to say they had transferred because they had completed their planned program and more likely to transfer because of inadequate support services, general dissatisfaction, and the feeling that they did not fit in. Despite their greater-than-average likelihood of having taken remediation or tutoring and having a mentor (usually a college professor or advisor), 42 percent (compared with 31 percent of the total sample) made no better than C+ averages in college. Major sourcees of income mentioned more frequently by the multiply handicapped than by others were Social Security benefits and federal college-related aid, but few received scholarships from the college or from an outside agency. Sixteen percent (compared with 10 percent of the total group) reported having no income; over half (54 percent, compared with 46 percent of the total group) were very much concerned about their ability to pay for college.

Consistent with their college performance, the multiply disabled had rather low degree aspirations (with 12 percent planning on getting nothing higher than an associate degree), though the proportions seeking a master's degree increased between 1978 and 1981. They were less likely than others to aspire to a doctorate or a professional degree. Though relatively stable in their major field choices, they were unstable in their career choices. Larger-than-average proportions said in 1981 that they planned to become farmers or

doctors, and smaller-than-average proportions planned to become businesspersons, clergy, engineers, or lawyers.

The multiply disabled were more likely than average to feel that their handicaps affected their functioning in virtually all areas and that they encountered attitudinal and behavioral barriers in college. Perhaps because this group encompasses a variety of disabilities, relatively large proportions indicated that they made use of--or would have used, if available--a variety of support services and accommodations. The fact that they have more than one disability may account for the relatively large proportions who planned to adopt children and to have part-time careers.

Their distribution with respect to political orientation resembled the norm, except that 7 percent (compared with 4 percent of the total sample) characterized their views as far left. They had a propensity to endorse many life goals as essential; given their comparatively slow progress and poor performance in college, these ambitions seem unrealistic. Although inclined to rate themselves as above average in artistic ability and originality, the multiply disabled had a generally unfavorable self-image; relatively few saw themselves as outstanding in academic, leadership, mathematical, and writing ability; as physically attractive, popular, or socially self-confident; or as having a sense of humor. In summary, the multiply disabled constitute a high-risk group among undergraduates.

Hearing Disability

The hearing-impaired, who accounted for 12 percent of the follow-up sample (392 respondents), tended to resemble traditional college students in

that relatively few were over age 22, veterans, or married with children at the time of the follow-up survey. Whites and those from "other" racial/ethnic backgrounds were more likely than average, and Orientals less likely than average, to be hearing-impaired. Over half (56 percent) of the group were women.

Larger-than-average proportions of the hearing-impaired had been mainstreamed in their earlier schooling, had attended private high schools (especially nondenominational schools), and had taken college preparatory courses. Their high school grades were good, and their college grades were about average. Their institutional distribution in 1978 resembled the norm. They were more likely than others to have been enrolled in college continuously since 1978, and less likely to have withdrawn permanently or to be current stopouts. Perhaps because they had a somewhat greater-than-average tendency to have enrolled part time, a smaller proportion of the hearing-impaired than of the visually disabled had achieved senior status, and a larger proportion were juniors.

The socialbility and independence that characterize this group are reflected in the reasons they give for transferring: Among the 30 percent who attended more than one institution, relatively common reasons include wanting to attend a larger institution, to improve their social life, and to be farther away from home. In addition, the hearing-disabled tended to be more deeply involved in campus life than others: Larger-than-average proportions lived in college housing, were elected to student office, and joined fraternities or sororities. They were somewhat more likely than average to indicate that they had a mentor and that the mentor was a college friend or college professor and was female.

Their distribution with respect to income resembled the norm; larger-than-average proportions got financial support from parents or relatives and from college or outside scholarships. Only 40 percent (compared with 46 percent of the total sample) were very much concerned about their ability to pay for college.

The degree aspirations of the hearing-impaired were high; they were more likely than others to aim for a professional degree and to plan on becoming doctors, college teachers, research scientists, and businesspersons. In addition, the proportion aspiring to a doctorate more than doubled between 1978 and 1981 (from 8 percent to 17 percent). Like their career choices, their life goals reflect both altruistic and material values, with relatively large proportions saying that the goals of influencing social values, helping others in difficulty, participating in programs to clean up the environment and in community action programs, raising a family, and being very well-off financially were essential to them. Somewhat paradoxically, though relatively few regarded themselves as socially self-confident, the hearing-disabled tended to give themselves high ratings on physical attractiveness, popularity, popularity with the opposite sex, and understanding of others. They were more likely than any other group to see themselves as athletically able as well.

Over three-fourths of the hearing-impaired (78 percent, compared with 54 percent of the total sample) said their disability had been diagnosed sometime between birth and age 12; very few (17 percent, compared with 36 percent of the total sample) had become disabled during adolescence or adulthood. About three in five said that their ability affected their functioning in college to some extent, more in the academic and social areas than in the recreational and

psychological areas. Though somewhat more likely than average to join nondisabled student organizations and clubs, they were less likely than average to say they used, or would have used, other support services and accommodations (though 11 percent felt a need for repair services for assistive devices) and more likely to say that a given service was irrelevant to them.

The hearing-impaired were less likely to be liberal in 1981 than in 1978; like the orthopedically handicapped, they tended to be middle-of-the-road.

Health-Related Disability

Respondents with health-related disabilities constituted 10 percent of the 1981 follow-up sample, or 331 persons; 48 percent of the group were men. They tended to be young, nonveteran, and childless, though 12 percent (compared with 9 percent of the total sample) were married. Relatively large proportions were Protestant or Catholic,but relatively few regarded themselves as born-again Christians. Hispanics and Whites were more likely than average to have health-related disabilities, but virtually none of the disabled Orientals and those from "other" racial/ethnic groups were in this category.

Relatively large proportions had been mainstreamed in their earlier schooling, attended religious high schools, took other-than-college-preparatory courses, and earned A averages in high school. They were more likely than average to enter public universities and public four-year colleges. They were almost twice as likely as average to be former stopouts (19 percent, compared with 10 percent of the total sample) but no less likely than average to be seniors. One-third had attended more than one institution. They performed well in college, with larger-than-average proportions earning A grades and

smaller-than-average proportions making B averages. Relatively few took remediation or tutoring.

Two-thirds of the respondents with health-related disabilities (compared with 55 percent of the total sample) had worked while in college, most frequently in part-time, off-campus jobs. Half (compared with 35 percent of the total sample) lived off-campus, often with parents or relatives, though a larger-than-average proportion would have preferred to live alone. Only 2 percent had no income, but 72 percent (compared with 53 percent of the total sample) had incomes below $5,000. Nonetheless, they were not inclined to be concerned over finances. Larger-than-average proportions got support from parents or spouses, received Vocational Rehabilitation funds, or received scholarships from the college or an outside agency; relatively few got Supplementary Support Income. They were as likely as average to have a mentor, usually a college friend, college professor, or college advisor; the mentor tended to be a man under the age of 30.

Those with health-related disabilities were more likely than average to aspire to an associate degree or a baccalaureate; but they were also more likely than any other of the five main groups to plan on a doctorate. They tended to be unstable in both their major and career choices. In 1981, they were more likely than any other group to plan on becoming businesspersons, research scientists, or nurses; law and the clergy were also popular choices. Relatively unpopular choices included doctor and elementary/high school teacher.

Health-related disabilities tended to be diagnosed either prenatally/at birth or after the age of 18, and to be hidden, rather than obvious. Eighty-four percent of those with such disabilities found their functioning impaired

to at least some extent; that impairment was especially evident in the social and recreational areas. Perhaps because of the invisibility of their handicap, they rarely encountered obstructive attitudes and behaviors. Though more likely than average to utilize adaptive physical education and campus orientation and to say that they would have used financial aid for disability-related expenses and special parking if those accommodations had been available to them, those with health-related disabilities were inclined to feel that most of the support services and accommodationswere irrelevant to them.

Their distribution with respect to 1981 political orientation resembled the norm; as was generally the case, they had moved somewhat to the right since 1978. They were more likely than average to give high priority to the goals of having administrative responsibility over the work of others and achieving in a performing art, but relatively few regarded as essential the goals of becoming an authority in their field, influencing the political structure, succeeding in their own business, or raising a family. Consistent with the last point, 24 percent (compared with 16 percent of the total group) said they did not want children. One-quarter (compared with 19 percent of the total sample) would prefer to have part-time careers in ten or fifteen years.

Those with health-related disabilities had a strongly positive self-image, being more likely than others to rate themselves high on academic, artistic, leadership, and writing ability; on physical attractiveness; on intellectual self-confidence; on conservatism; and on stubbornness. Relatively few, however, saw themselves as original or understanding of others. They also tended to say they were defensive.

Chapter 10

Factors Influencing College Outcomes

To identify the specific factors--and especially the college services and experiences--that are associated with various outcomes (including college grades, satisfaction, and persistence) among handicapped undergraduates, a series of stepwise multiple regression analyses were performed. The sample used varies somewhat according to the specific analysis but generally consists of those 1978 disabled students who had initially enrolled in four-year colleges and universities. Two-year college entrants were excluded because many of them enrolled in college aspiring to no more than a vocational credential or an associate degree and thus, by 1981 had fulfilled their initial aspirations; obviously, they cannot be considered "dropouts," even though they were not currently enrolled at the time of the follow-up survey. Moreover, their shorter-term exposure to the college environment makes their performance in college and their satisfaction with the college experience less relevant to the research interests pursued in this project than is the case with those disabled students who entered college intending to get at least a baccalaureate.

The independent (predictor) variables were of five categories. The first were control (student input) variables: sex, age, race/ethnicity, parents' income and education, high school grades and rank in graduating class, 1978 religious preference, age when disability was diagnosed, and disability area (as identified on the 1981 follow-up questionnaire). The second category comprised a list of support services and accommodations--some of them (e.g., academic advising, vocational counseling, nondisabled student organizations and clubs) available to all students at virtually all colleges, and others (e.g., adaptive equipment and assistive devices; support service personnel such as

interpreters, readers, and attendants; time and program accommodations) targeted on the disabled. (See #28 of the follow-up questionnaire in Appendix A.) Each of these was scored as a dichotomous variable, depending on whether or not a respondent had made use of that particular service or accommodation. The third category consisted of 11 income sources for college expenses (#37 of the follow-up questionnaire); each was scored as a continuous variable, depending on whether it was a major source, a minor source, or not a source of college finances. In the fourth category were a number of environmental and experiential variables, including whether the respondent had a mentor ("one person whose support, encouragement, guidance, or confidence in you" was central to "your success") in college (#19a); whether the respondent had taken adaptive physical education (rather than regular gym classes) at various levels of education (#5B); residential arrangements (lived in college housing or in private housing; lived with disabled or nondisabled roommate(s) (#15 and #16); and employment factors (not employed; worked on campus part time or full time) (#10). The final category of independent variables comprised four institutional types, depending on where the respondent had enrolled in 1978: public university, private university, public four-year college, private four-year college. As Table 53 indicates, not all these independent variables were used in each of the four regression analyses performed.

College Grades

The first dependent variable investigated was college grade-point average, as reported by respondents to the 1981 follow-up questionnaire (#12). The sample consisted of 1,004 disabled persons who had enrolled in a four-year

college or university in 1978. Forty-three independent variables entered the regression equation with significant beta weights; in total, they accounted for slightly over half the variance in the outcome ($\underline{R}^2$=.54). For the sake of brevity, only those that also had significant zero-order correlations with the outcome are discussed here.

By far the best predictor of college GPA was high school GPA; that is, disabled students who had outstanding high school records were also likely to perform well in college. This finding is consistent with a body of research on college students. Oriental students were likely to make high grades, whereas Blacks were likely to make relatively low grades. Those students whose disability (or disabilities) had been diagnosed relatively late tended to perform better in college than did those whose disability was diagnosed early. This relationship suggests that those who become disabled early in their lives may "accumulate" educational disadvantages that work against them at the college level. In addition, women tended to make higher grades than men, older students tended to make higher grades than younger students, and those who considered themselves reborn Christians tended to make higher grades than those who did not.

After these student input variables were controlled, the two variables found to be most closely related to college grades involved support services. Those disabled students who indicated that they utilized existing architectural accommodations (e.g., elevators, stair railings) in college earned relatively low grades, whereas those who participated in disabled student organizations or clubs earned relatively high grades. The first relationship is difficult to interpret. The second relationship suggests that disabled student organizations

and clubs provide support and encouragement to their members that enable them to perform at a high level. Other support service variables that were positively associated with grades include the following: adaptive admissions criteria, repair services for assistive devices, adaptive architectural accommodations (e.g., ramps, adapted restroom facilities), special parking, instructional accommodations, and adaptive equipment or assistive devices (e.g., tape recorders, braille). On the other hand, those disabled students who indicated that they had made use of personal counseling and therapy services, performance evaluation accommodations, support service personnel (e.g., interpreters, readers, attendants), transportation, adaptive admissions procedures, financial aid for cost-of-living expenses, and program accommodations tended to make relatively low grades in college.

Having a scholarship from the college was strongly associated with earning good grades. It may be that institutions tend to give such financial aid to students who seem especially promising, even beyond their past academic records. Or it may be that receiving such support from the college gives the disabled student an extra incentive to apply him/herself to undergraduate studies and to do well. In addition, those students who received support from a spouse or from parents or relatives and those who got Vocational Rehabilitation funds or Supplementary Support Income were likely to make good grades in college. Federal college-related aid (such as grants and loans) and veterans' benefits, however, were negatively related to undergraduate GPA.

Working on campus in a full-time job had a strong negative relationship to college grades, whereas working on campus in a part-time job had a small but positive relationship. It is not difficult to understand why students who work

full time, whether on or off campus, tend to make low grades; the pressures of such employment would make it difficult to keep up with academic work. On the other hand, part-time, on-campus employment may help to promote involvement in campus affairs and thus may have a mildly favorable effect on performance.

Living in college housing also had a strong negative relationship with the outcome. This finding is surprising, in that other research (see, for example, Astin, 1975; Chickering, 1976) has consistently shown that living on campus (e.g., in residence halls, fraternities and sororities) has favorable effects on undergraduate progress and performance. It may be that adjusting to life in a college dormitory imposes hardships and pressures on disabled students that the nondisabled do not experience.For some disabled students, it may represent their fist concentrated exposure to life among their nondisabled contemporaries. The disabled may have an easier time keeping up with their studies if they live off campus (for instance, at home with their parents or in apartments of their own) where they do not have other distractions. In addition, college GPA was negatively associated with having a disabled roommate (or roommates) and positively associated with having nondisabled roommates, though these relationships were much weaker.

Institutional type was only weakly associated with college grades. Disabled students attending private four-year colleges tended to make high grades, whereas those attending private universities tended to make low grades. The literature on college effects indicates that private universities--which are often highly selective--generally have negative effects on college performance, since even capable students find themselves facing stiff competition for grades. On the other hand, most private four-year colleges--especially those with religious affiliations--are less selective; moreover, their "climate" is likely to be warm, friendly, and supportive. These differences in the college

environment of the two types of institutions may account for their differential effects on grades.

Satisfaction with College

Respondents were asked to indicate whether they "felt satisfied with college" (#3 on the follow-up questionnaire; see Appendix A). Two-thirds of the 1,004 disabled persons used in this regression analysis for satisfaction (tne same sample as was used in the analysis for college GPA) answered affirmatively. Thirty-three variables entered the regression equation with significant beta weights, accounting for two-fifths of the variance in the outcome (R^2=.40). Again, the discussion focuses on those variables that also had significant zero-order correlations with satisfaction.

Looking first at background characteristics, we find that respondents who made good grades in high school, as well as those whose current religious preference was Protestant or Catholic, were likely to be satisfied with college. Both Blacks and Whites were likely to be dissatisfied. While high school GPA is positively associated with satisfaction, rank in graduating class turns out to be a negative predictor. Since these two independent variables (high school grades and rank) are strongly correlated with each other (.67), and since high school rank has a positive, though small, zero-order correlation with satisfaction (.08), we can conclude that dissatisfaction with college is widespread among that small proportion of disabled students who ranked high in their graduating classes but did not make outstanding grades in high school, relative to the total group. This description would seem to fit students from uncompetitive high schools, where student achievement is generally low. It may

be that high-ranking students from such schools--because they have formed the impression that they are superior to their classmates and expect to do well in college without exerting too much effort--are unpleasantly surprised and distressed by the demands made upon them when they reach college.

The environmental variable most strongly related to satisfaction is private university: Disabled students entering this type of institution as freshmen tended to be dissatisfied with their college experience. As was just pointed out, private universities are usually highly selective and competitive; in addition, many of them are large and impersonal institutions, where the individual student may get lost in the crowd. This combination of college characteristics might well produce dissatisfaction.

Those disabled respondents who said that they made use of existing or adapted architectural accommodations, time accommodations, academic advising, or "other" supportive services tended to express satisfaction with college, whereas those who made use of program accommodations, personal counseling and therapy services, and support service personnel tended to express dissatisfaction. Why these various support services and accommodations should have differential effects on satisfaction is not clear.

The pattern for effects of various sources of college finance was similar to the pattern that emerged in the analysis for college GPA. That is, those disabled respondents who got support from parents or relatives, who received a scholarship from the college, or who qualified for Supplementary Support Income were likely to be satisfied with college. Dissatisfaction was associated with receiving federal college-related aid such as grants or loans and with receiving Social Security benefits, though the zero-order correlations between these variables and the outcome were low.

One interesting and rather puzzling finding to emerge from this analysis is that taking adaptive physical education (rather than regular gym) in elementary school was negatively related to college satisfaction, whereas taking adaptive physical education in high school had a positive relationship. (There was no relationship, however, between satisfaction and age at which the disability was diagnosed.) One may speculate that, in elementary school, being separated from one's classmates by placement in a special physical education class is an isolating and traumatic experience that may interfere with one's later enjoyment of the college experience (and of life in general). In high school, on the other hand, the disabled student, being more mature may welcome placement in an adaptive physical education program as a way of avoiding the strain of participatin in highly competitive and physically demanding sports activities; such placement may give the individual a chance to develop his/her own special abilities and strengths in ways that promote later satisfaction. This interpretation is, obviously, very tentative.

A number of other college experiences were related to satisfaction. Those who were employed in full-time on-campus jobs, who lived in private housing, and who had a mentor while in college were likely to express satisfaction. Those who were employed in part-time on-campus jobs were likely to express dissatisfaction.

College Class

The third outcome investigated was college class at the time of the follow-up survey. One item on the 1981 follow-up questionnaire read: "What is your current (or most recent) college class?" The proportions of the total

sample checking each response option were as follows: freshman, 8 percent; sophomore, 12 percent; junior, 28 percent; senior, 48 percent; other, 4 percent. Thus, about half of all 1981 follow-up respondents can be assumed to have made "normal" progress in college. The sample for this anlaysis comprised only those respondents who had entered four-year colleges and universities as first-time, full-time freshmen in 1978 (N=715). (As was pointed out in Chapter 5, about 12 percent of the 1981 respondents were not freshmen when they entered college in 1978 but rather had advanced standing; another 1 percent were first-time freshmen enrolled on a part-time basis.) To a large extent, this outcome is a measure of persistence: Those respondents who have been enrolled in college continuously on a full-time basis will have advanced further than will those who have dropped out or stopped out and those who have been enrolled on a part-time basis for at least part of their undergraduate careers.

Thirty-eight independent variables entered the regression equation with significant beta weights, accounting for half the variance in the outcome ($\underline{R}^2$=.50). Again, for brevity, attention is focused on those variables that also had significant zero-order correlations with college class.

Students who were Oriental or white, whose 1978 religious preference was Catholic or Protestant, whose fathers were well educated, and who ranked high in their high school graduating classes were likely to be seniors at the time of the follow-up survey. Women were somewhat more likely than men to have achieved this status. Of the various disability groups, those with "other" handicaps and with speech impairments were less likely than average to be seniors. (The same was true for those with learning and hearing disabilities, though the zero-order correlations between these variables and the outcome were insignificant.)

Of the environmental and experiential variables, the most potent predictors of college class (after student input characteristics were controlled) involved sources of finance for college. Disabled students who received substantial support from their parents or relatives or who had a scholarship from an outside agency were likely to have advanced further than those who did not draw heavily on these sources. Since parental support is related to parents' income (.29), one might suppose that this first relationship means simply that students from more affluent families, which can contribute more to their support, have an easier time getting through college. However, the positive relationship between parental support and college class persists even after the effects of parental income--and of father's education, which is related both to parental income (.45) and to college class (.23)--are taken into account. The implication is that, whatever the income level of the parents, their financial support of the student may provide psychological support and encouragement as well and thus may contribute to his/her progress in college. Similarly, receiving a scholarship from an outside agency may bolster the disabled student's self-confidence and may act as an incentive for remaining in college. Moreover, students receiving support from sources may feel a stonger sense of obligation to persist.

Other major sources of finance that were positively related to college class were federal college-related aid (such as grants and loans), Vocational Rehabilitation funds, and "other" sources. On the other hand, disabled students who received veterans' benefits or who relied on self-support (for instance, earnings from employment) were less likely to have achieved senior status by the time of the follow-up survey. At first glance, one might infer that the unfavorable effects of self-support are partly attributable to the distractions

connected with having to work while in college; the student who works at an outside job simply has less time to spend on studies. Such seems not to be the case, however, since not being employed while in college was also negatively related to college class.

Of the various college support services and accommodations, the one having the greatest positive effect on the outcome was participation in disabled student organizations and clubs: As was the case in the analysis for college GPA, the explanation for this relationship may lie in the psychological support provided by such clubs. In addition, disabled students who said they made use of transportation, special parking, and "other" support services were likely to be seniors. Among the support services having negative effects were adaptive architectural accommodations, support service personnel, financial aid for disability-related expenses, financial aid for college expenses, and existing architectural accommodations.

Disabled students who had entered public four-year colleges in 1978 were likely to have advanced further than those who had entered public or private universities. These differences in effects may be attributable to differences in the level of competition at different types of institutions. That is, a given student may find it easier to progress in a public four-year college because such institutions generally enroll less able students than do either public or private universities.

College Enrollment

The final outcome examined in the regression analyses was current enrollment in college, as opposed to permanent withdrawal. Like college class, this outcome is a measure of persistence. The first item on the follow-up question-

naire asked respondents to indicate whether they (1) were currently enrolled in college and had been since 1978; (2) were currently enrolled but had withdrawn temporarily at some earlier point; (3) were not currently enrolled but planned to return to school soon; and (4) had permenantly withdrawn from college. The sample used in the analysis comprised all those respondents who had entered four-year colleges and universities in 1978 and who had checked the first, second, or fourth alternative listed above (N=701). Excluded were those disabled students who were not currently enrolled but planned to return to college in the near future (i.e., those checking the third alternative).

Fifty-five variables entered the regression with significant beta weights. Together they accounted for two-thirds of the variance in the outcome ($\underline{R}^2$=.68).

Whites, Blacks, Orientals, and Chicanos were likely to be currently enrolled in college. American Indians were likely to have withdrawn, although the zero-order correlation between the independent variable and the outcome was very small (.01) and American Indians constituted less than 1 percent of the sample. Two additional racial/ethnic identifiers--Puerto Rican and "other"--were not included among the independent variables. Those with Catholic, Protestant, Jewish, or no religious preferences in 1978 were likely to be currently enrolled. The one religious preference not included as an independent variable was "other"; the implication is that those respondents expressing such a preference (about 8 percent of the sample) were likely to have dropped out of college completely.

Although some of the zero-order correlations were low, having a visual, health-related, orthopedic, hearing, or emotional disability was negatively related to the outcome, whereas having a speech or "other" handicap was positively related to it.

Findings with respect to socioeconomic status were somewhat inconsistent: Current enrollment was positively associated with father's education and with parental income but negatively associated with mother's education; that is, those disabled respondents who came from higher-income backgrounds, whose fathers were well educated, but whose mothers were relatively poorly educated tended to be currently enrolled. Since mother's education and father's education are highly correlated (.61), these relationships are difficult to interpret. One possible, though highly tentative, explanation is that students who come from families where both parents are well educated tend to take a consumer-oriented approach to education and thus are more likely to stop out or drop out; on the other hand, those students from families where the father is well educated but the mother is not may be more vocationally oriented and thus more likely to persist, or to withdraw from school for a brief period and then reenroll, since their maingoal is to get the degree and then begin their careers.

Equally difficult to interpret is the finding that students who had earned good grades in high school were somewhat more likely to have withdrawn from college. Perhaps many of these students applied themselves with great diligence in high school and, by the tiume they reached college, found themselves worn out by their earlier efforts and thus were more inclined to withdraw. Finally, those respondents whose disabilities had been diagnosed relatively late were likely to have dropped out of college permanently, and women were more likely than men to be currently enrolled.

After student input variables were controlled, the strongest predictor of current enrollment in college was having nondisabled roommates, which was

positively related to the outcome. As was the case in the analysis for college GPA, having disabled roommates and living in college housing were negative predictors of current enrollment.

The support service variable that carried the greatest weight in the final equation was adaptive physical education, which was positively related to current enrollment, though it was a negative predictor in the regression analysis for college class. These findings are not necessarily contradictory, since the currently enrolled respondents of the present analysis include those who have stopped out at some earlier point in their undergraduate careers but then returned to college; because of their temporary withdrawal, these students are unlikely to have achieved senior status. One possible explanation for the positive effects of adaptive physical education on current enrollment is that many institutions do not require their undergraduates to take any physical education classes at all; therefore, those disabled students who do enroll in physical education (even though they take adaptive rather than regular classes) demonstrate a determination and perseverance which stands them in good stead when it comes to persistence in college (even though some of them may have to withdraw from school at some point along the way).

Other student support services positively related to current enrollment (though the zero-order correlations were sometimes low) were academic advising, registration priority, transportation, personal counseling and therapy, and legal services. Negative predictors included "other" services, financial aid for college expenses, time accommodations, adaptive architectural accommodations, program accommodations, special parking, support service personnel, nondisabled student organizations and clubs, and peer counseling from nondisabled students.

Three sources of income proved significant in this anlaysis, all of them positively related to the outcomes. Those respondents who received Vocational Rehabilitation funds, federal college-related aid, or college scholarships were more likely to be currently enrolled in college than were those who did not draw on these sources to finance their education.

Further, having a mentor in college predicted current enrollment, whereas not being employed while in college predicted withdrawal. Findings with respect to institutional type were intriguing: Those respondents who had initially enrolled in public four-year colleges and in private universities had some tendency to have dropped out of college by the time of the follow-up survey, whereas those who had entered a private four-year college in 1978 tended to be currently enrolled. The negative effect of atending a public four-year college is surprising, in view of the positive effect of this institutional type on college class. Again, the reader is reminded that these two measures of persistence differ considerably. One can infer that those disabled respondents who manage to remain in a public four-year college are likely to make good progress, whereas those who withdraw from the college at some point are less likely to return to school. The positive effects of the private four-year college may be attributable to the small size and the generally friendly and nurturant atmosphere of such institutions.

Summary

Table 53 summarizes the findings of the four regression analyses. Only the highlights are discussed here.

Table 53

Summary of Factors Influencing College Outcomes

Independent Variable	Outcome Measure: College GPA	Satis-faction	College Class	Current Enrollment
Student input characteristics:				
Sex: female	+		+	+
Age	+			
Race: White		-	+	+
Race: Black	-	-		+
Race: Oriental	+		+	+
Race: Chicano				+
Race: American Indian				-
Parental income				+
Father's education			+	+
Mother's education				-
High school grades	+	+		-
High school rank		-	+	
Reborn Christian	+			
Protestant preference		+	+	+
Catholic preference		+	+	+
Jewish preference				
No religious preference				+
Age when disability was diagnosed	+			-
Visual disability	a	a		-
Hearing disability	a	a	-	-
Speech disability	a	a	-	+
Orthopedic disability	a	a		-
Learning disability	a	a	-	
Health-related disability	a	a		-
Emotional disability	a	a		-
Other disability	a	a	-	+

Table 53--Continued

Independent Variable	Outcome Measure: College GPA	Satis-faction	College Class	Current Enrollment
Support services and accommodations:				
Existing architectural accommodations	-	+	-	
Adaptive architectural accommodations	+	+	-	-
Adaptive equipment, assistive devices	+			
Support service personnel	-	-	-	-
Instructional accommodations	+			
Time accommodations		+		-
Program accommodations	-	-		-
Performance evaluation accommodations	-			
Adaptive physical education			-	+
Peer counseling from disabled students			a	
Peer counseling from nondisabled students		+		-
Academic advising		+		+
Personal counseling, therapy	-	-		+
Vocational counseling			a	
Repair services for assistive devices	+		a	
Disabled student organizations, clubs	+		+	
Nondisabled student organizations, clubs				-
Disabled student office, advocate			a	
Legal services			a	+
Adaptive admissions criteria	+			
Adaptive admissions procedures	-			
Campus orientation				
Financial aid for college expenses			-	-
Financial aid for cost-of-living expenses	-		a	
Financial aid for disability-related expenses			-	
Transportation	-		+	+
Special parking	+		+	-
Registration priority				+
Other		+	+	-

Table 53--Continued

Independent Variable	Outcome Measure: College GPA	Satis-faction	College Class	Current Enrollment
Income sources:				
Parents, relatives, inheritance, etc.	+	+	+	
Spouse	+			
Self (earnings from employment, savings, etc.)			-	
Social Security benefits		-		
Veterans' benefits	-		-	
Vocational Rehabilitation funds	+		+	+
Supplementary Support Income	+	+		
Federal college-related financial aid (loan, grant, etc.)	-	-	+	+
Scholarship from college	+	+		+
Scholarship from outside agency, organization			+	
Other			+	
Other environmental and experiential characteristics:				
Mentor		+		+
No adaptive physical education			a	a
Adaptive physical education in elementary school		-	a	a
Adaptive physical education in junior high			a	a
Adaptive physical education in high school		+	a	a
Adaptive physical education in college			a	a
College housing (dormitory, fraternity or sorority, other college housing)	-			-
Off-campus housing (private room, apartment, or house)		+		
Lived with disabled roommate or roommates	-			-
Lived with nondisabled roommate or roommates	+			+
Not employed while in college			-	-
Full-time employment on campus	-	+	a	a
Part-time employment on campus	+	-	a	a

Table 53--Concluded

Independent Variable	Outcome Measure			
	College GPA	Satis-faction	College Class	Current Enrollment
Institutional type:				
Public university			-	
Private university	-	-	-	-
Public four-year college			+	-
Private four-year college	+			+

Note: Table shows only those positive or negative correlations that were significant at the .05 level of confidence (F ratio = 3.5) in the final equation.

[a]Not included as an independent variable in the regression analysis for this outcome.

Looking at the student input variables, one notes that disabled women tended to be more successful in college than their male counterparts: They were more likely to be currently enrolled as seniors, and their college grades were higher. Age bore little relation to the outcomes studied, except that older students tended to make better grades than younger ones. Of the racial/ethnic groups, Orientals were the most consistently successful. Both Whites and Blacks were likely to be currently enrolled in college but to express dissatisfaction with the college experience; in addition, Blacks made relatively low grades. American Indians had a tendency to drop out of college.

Of the socioeconomic variables used in the analyses, father's education most frequently proved significant: Disabled students whose fathers were relatively well educated tended to persist in college but to be dissatisfied. Parental income was a positive predictor, and mother's education a negative predictor, of current enrollment.

Disabled students who made good grades in high school also made good grades in college and were likely to be satisfied with the college experience; somewhat surprisingly, however, high school grades were negatively related to current enrollment in college. Rank in high school graduating class was negatively related to satisfaction but positively related to college class.

Variables related to disability area were used in only two of the four regression analyses, and the findings are inconclusive because of low zero-order correlations (in most cases) between the variable and the outcome under consideration. Students whose disability was diagnosed later in their lives tended to make high grades but also to withdraw from college.

Looking at the effects of the college support services and accommodations used by disabled respondents, we encounter difficulties of interpretation. For instance, why is utilization of adaptive architectural accommodations positively related to college GPA and satisfaction but negatively related to college class and current enrollment? Why are disabled students who make use of time accommodations likely to be satisfied with college and to make normal progress but less likely to be currently enrolled in college? To what extent are the various relationships attributable to the severity (rather than the nature) of the disability? These are questions that cannot be answered, even speculatively, from these analyses. Some of the findings make sense or are worthy of note because of their consistency. For instance, utilization of support service personnel was a negative predictor in all four of the regression analyses; perhaps being heavily dependent on other people such as readers, interpreters, and attendants is generally detrimental to effective functioning at the college level, however competent such support personnel may be. Similarly, utilization of program accommodations had a negative relationship with three of the four outcomes under investigation. On the other hand, disabled students who made use of academic advising (a service available to all students at virtually all colleges) were likely to be satisfied with college and to be currently enrolled. Utilization of personal counseling or therapy had mixed effects: negative for college GPA and satisfaction, but positive for current enrollment; a reasonable inference is that disabled students who seek such counseling have problems that interfere to some extent with their performance and with their enjoyment of college but that these services do play a valuable role in keeping them in college. Finally, the strong positive effect of participation in disabled

student organizations and clubs on college grades and college class should be noted: The policy implications seem to be that such organizations should be established at all colleges that enroll substantial proportions of disabled students and that disabled students should be encouraged to join them for the support they seem to give.

The findings for income sources are less equivocal. Reliance on parental support, Vocational Rehabilitation funds, and college scholarships generally had favorable effects. Reliance on veterans' benefits had unfavorable effects on college GPA and college class; since veteran status was not included as an independent variable with other student input characteristics, it may be that this effect is actually related to being a veteran; that is, those students who have been in military service may perform less well and progress less straightforwardly in college than do nonveterans. Reliance on federal college-related aid such as grants and loans positively affects college class and current enrollment but negatively affects grades and satisfaction.

Looking at other environmental and experiential characteristics included in the analyses, one finds some surprises. For instance, the negative relation between college housing and both college GPA and current enrollment runs contrary to a body of research showing that students generally benefit from living on campus. Taken in conjunction with the positive relationship between living in private housing and satisfaction, the present finding leads to the conclusion that, in the case of disabled students, the conventional wisdom does not hold. As was suggested earlier, adjusting to on-campus living may impose strains on disabled students that the nondisabled do not experience. Other findings with respect to residential arrangements during the college years suggest that, if the disabled student does live in college housing,

he/she is more likely to remain in college and to make good grades if roommates are nondisabled rather than disabled.

With respect to employment during the college years, the findings suggest that disabled students are more likely to persist if they have some kind of job; working on campus in a part-time job seems to contribute to high performance but not to satisfaction, whereas the reverse is true for working on campus in a full-time job. Variables related to off-campus employment were not included in the regression analyses.

Having a mentor contributes to current enrollment and to satisfaction, though these effects seem rather slight.

Finally, disabled students seem to do comparatively well in private four-year colleges; but initial enrollment in a private university has consistently negative effects, especially on satisfaction. As was suggested earlier, these differences in effects may be attributable in part to differences in the size, selectivity, and general "climate" of the different institutional types.

By way of conclusion, it should be pointed out that the regression analyses discussed here were exploratory and that their results--and the explanations offered for them--must be regarded as highly tentative. Further mining of these data might produce more richly implicative findings. For instance, factor analysis might be used to group the various support services and accommodations into more easily manageable and interpretable clusters. In addition, some control variable might be introduced to take into account the possibly overriding effects of the severity of the disability. These analyses have barely begun to tap the mass of data available from the freshman and follow-up surveys.

Chapter 11

Policy Implications

The findings from this follow-up study of disabled college students should reassure those concerned that either the handicapped or the U.S. higher education system might shirk their responsibilities once access to college is gained. The majority of respondents to the 1981 follow-up questionnaire had persisted in college, earned good grades, retained high degree aspirations, were satisfied with college, manifested high self-esteem, and looked forward to being married, to having children, and to pursuing full-time careers. Further, they were much more likely to have utilized regular support services at college than special or adaptive ones, and relatively few reported encountering attitudinal barriers or experiencing difficulty with college functioning because of having a disability. In short, the mutual investment of handicapped individuals and of higher education institutions has positive payoffs, and this bodes well for the nation as more handicapped individuals enter college and universities under the federal mandate of Section 504 of the Rehabilitation Act of 1973. Indeed, the major policy implication of these data is obvious: Give the disabled access to colleges and universities, and they will match the nondisabled in their performance, progress, and promise.

Differences between the disability groups lead to a second policy implication: People with different types of handicaps must be accommodated differently. For instance, these data suggest that anticipatory interventions or support would be especially valuable to those with more than one disability, since the multiply handicapped seem to be more at risk than other groups. Even though those with health-related problems are more likely than others to have stopped out of college temporarily and to transfer from one institution to another, the

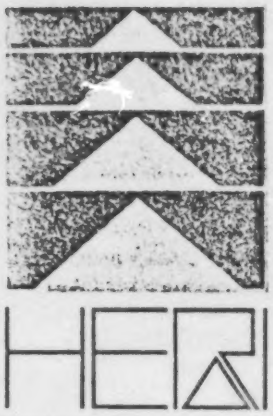
same recommendation does not apply to them: They return to college, make outstanding grades, and generally have such a positive self-image that the only special accommodation they require is to make the process of temporarily stopping out less cumbersome.

Nonetheless, within each disability group, were some people who said they needed support services or accommodations that were not available, who encountered barriers frequently or occasionally rather than seldom or never, or who simply dropped out of college. Therefore, a third implication of this study is that individuals differ. In other words, we must recognize that some handicapped individuals require more accommodation on the part of their college environment (both physical and human) than others.

A fourth implication is that reductions in financial aid to college students will adversely affect the disabled even more than their able-bodied counterparts. Both the disabled and the nondisabled finance their college education chiefly through parental support and self-support. However, because the handicapped so often have expenses associated with their disability, and because some of them are unable to work at outside jobs or find employers willing to hire them, they and their families face especially heavy financial demands. Thus, the potential benefits of balancing the federal budget, returning responsibility heretofore assumed by the federal government to the individual, and so forth, must be weighed against the possibility that many disabled young people will no longer be able to attend college. Not only will this represent a loss to the individuals involved, but also it will carry social costs as a greater number of disabled individuals remain dependent and unable to fulfill their aspirations.

As regards further research, the data from this study offer a wealth of further analyses, as well as suggesting additional studies. These include questions of the incidence and nature of disbility, in order to better understand the extent to which the handicapped realize equal opportunity in all aspects of society. More fundamental, of course, is the need to develop standardized, adequate, and relevant definitions, categories, measures, and distinctions in order to promote data-based understanding about the disabled and about how their disability affects their college and other life experiences and to compare findings about the disabled from study to study. Much more needs to be known about how various college characteristics affect persistence among the handicapped, perhaps by examining these follow-up data in combination with institutional data (e.g., size, location, selectivity). Some of the research implicit in these data, or waiting for further data collection, include studies of sex differences, career choice, the effects of earlier education interventions, matched sample comparison studies of disabled and nondisabled (or labeled as such) in childhood, in adolescence, or as an adult. Testimonials and anecdotes, however valuable in promoting a sense of humaness and uniqueness regarding the handicapped--are of limited utility to policymakers and educators as they accept the charge of carrying out the mandates of legislation. Thus, the only way to determine the effectiveness of and to improve current policies and practices designed to increase the accessibility of higher education to the handicapped is to collect quantifiable data from them.

APPENDIX A



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1981 FOLLOW-UP SURVEY OF 1978 DISABLED FRESHMEN

When you entered college in 1978, you participated in the Cooperative Institutional Research Program's annual freshman survey. At that time, you were one of 7,000 students completing the freshman questionnaire who said you were handicapped. This survey asks for more information about you, and about your experiences since then. Even if you are not disabled, or are no longer in college, we want you to answer and return this questionnaire. Your responses will provide valuable information to help federal, state, and college policy-makers better meet your needs and those of similar students in the future.

This survey was developed by the Higher Education Research Institute in Los Angeles and funded by the Bureau for the Education of the Handicapped in Washington, D.C. Your responses will be held in the strictest confidence, and they will be presented only in summary form. Students whose disabilities do not affect their reading or writing should be able to complete the survey in about half an hour. We realize, however, that some people will need to take a longer time. Your thoughtful responses and willing participation are much appreciated. Please return your survey as soon as possible in the enclosed stamped envelope.

We welcome your comments. However, all stray marks or writing on this questionnaire will invalidate your responses. Therefore, please follow directions carefully and enclose your comments on a separate sheet of paper.

Sincerely,

Dr. James Henson
Judith K. Lawrence
Higher Education Research Institute

116A/3373-Intran-54321

MARKING DIRECTIONS

NOTE: Your responses will be read by an optical mark reader. It is important that you follow a few simple rules.

- **Use only a black soft lead pencil (No. 2 is ideal).**
- **Make heavy dark marks that completely fill the circle.**
- **Erase cleanly any answer you wish to change.**
- **Make no stray marks anywhere on this form.**

Proper Mark: ● Improper Marks: ✓ ✗ ⊙ ○

1. What is your current status? (Mark one)

- ○ I am currently enrolled in college, and have been since 1978. (Answer item 2a and not 2b)
- ○ I withdrew from college temporarily but am currently enrolled again. (Answer items 2a and 2b)
- ○ I am temporarily not in college but plan to return soon. (Answer items 2a and 2b)
- ○ I have permanently withdrawn from college or intend to do so. (Skip 2a and answer 2b)

2a. Which of the following do you still expect to do in college? (Mark all that apply)

- ○ Change major field
- ○ Change career choice
- ○ Fail one or more courses
- ○ Graduate with honors
- ○ Be elected to a student office
- ○ Make at least a "B" average
- ○ Need extra time to complete degree requirements
- ○ Get tutoring help in specific courses
- ○ Seek vocational counseling
- ○ Seek individual counseling on personal problems
- ○ Participate in protests and demonstrations
- ○ Drop out of college temporarily
- ○ Transfer to another college before graduation
- ○ Get a job after college connected with major field of study
- ○ Get a job after college for which a college degree is appropriate

2b. How important were each of the following factors in your decision to interrupt or terminate your education? (Mark one column for each factor)

	Very Important	Somewhat Important	Not at All Important
College did not provide adequate support services (e.g., note-takers, readers, interpreters, attendants)	○	○	○
I had completed my planned program	○	○	○
I had to assume family responsibilities (e.g., because of family illness)	○	○	○
I became ill/needed treatment	○	○	○
I got a good job offer	○	○	○
I needed to earn money (e.g., for school)	○	○	○
I (or my family) moved to a different location	○	○	○
I did not do as well academically as I thought I would	○	○	○
My relatives/spouse discouraged me from continuing	○	○	○
I decided I did not need a college degree	○	○	○
I wanted time to reconsider my goals and interests	○	○	○

2b. (Cont.)

	Very Important	Somewhat Important	Not at All Important
I changed my career plans	○	○	○
I was tired of being a student	○	○	○
I was unable to get the financial aid I needed	○	○	○
College expenses were too high	○	○	○
Expenses connected with my disability were too high	○	○	○
I wanted to get practical experience	○	○	○
I felt that a college education would not improve my job prospects	○	○	○
I didn't feel safe on campus	○	○	○
I had no place to study	○	○	○
I didn't "fit in" at college	○	○	○
I wanted to travel	○	○	○
I wanted to transfer to another institution but could not enroll immediately	○	○	○
Other (Indicate degree of importance)	○	○	○

3. Which of the following have you done (did you do) while in college? (Mark all that apply)

- ○ Changed major field
- ○ Changed career choice
- ○ Failed one or more courses
- ○ Was elected to a student office
- ○ Served on a campus committee
- ○ Got a job to help pay for college expenses
- ○ Joined a social fraternity, sorority, or club
- ○ Made at least a "B" average
- ○ Participated in protests or demonstrations
- ○ Felt satisfied with college

4. What type of high school did you attend most of the time? (Mark one)

- ○ Public
- ○ Private: Nondenominational
- ○ Private: Religious

5a. What type of arrangement best describes your educational program at each level? (Mark one in each column)

	Elementary Grades K to 5-6	Junior High Grades 6-7 to 9-10	High School Grades 9-10 to 12	College
Regular academic program with nondisabled peers	○	○	○	○
Regular academic program with special classes or services as needed	○	○	○	○
Regular school but segregated in special academic classes	○	○	○	○
Special school for the disabled	○	○	○	○
Other (Mark appropriate column)	○	○	○	○

5b. Did you take adaptive physical education rather than regular gym classes?

- ○ No (Go on to question 6)
- ○ Yes, Elementary (Grades K to 5-6)
- ○ Yes, Junior High (Grades 6-7 to 9-10)
- ○ Yes, High School (Grades 9-10 to 12)
- ○ Yes, College

6. What academic degree are you currently working toward, and what is the highest academic degree you intend to get? (Mark one in each column)

	Current Degree Planned	Highest Degree Planned
None	○	○
High school diploma or GED	○	○
Vocational diploma/certificate	○	○
Associate (A.A. or equivalent)	○	○
Baccalaureate (B.A., B.S., etc.)	○	○
Teaching credential	○	○
Master's (M.A., M.S., etc.)	○	○
Doctorate (Ph.D. or Ed.D.)	○	○
Professional degree (e.g., M.D., D.D.S, D.V.M., LL.B., J.D., B.D., M.Div.)	○	○
Other (Mark appropriate columns)	○	○

7. What is your current (or most recent) college class? (Mark one)

○ Freshman
○ Sophomore
○ Junior
○ Senior
○ Other

8a. How many colleges have you attended since fall 1978? (Mark one)

○ One (Go on to item 9)
○ Two (Answer item 8b)
○ Three or more (Answer item 8b)

8b. How important was each of the following factors in your decision to transfer from your first college to another institution? (Mark one column for each factor)

	Very Important	Somewhat Important	Not at All Important
My first college did not provide adequate support services (e.g., note-takers, readers, interpreters, attendants)	○	○	○
I completed my planned program at my first institution	○	○	○
I wanted a better social life	○	○	○
I wanted to go to a larger institution	○	○	○
I wanted to go to a smaller institution	○	○	○
I wanted to live in a different type of community	○	○	○
I wanted to be farther from home (parents)	○	○	○
I wanted to be closer to home (parents)	○	○	○
I or my family moved to a different location	○	○	○
I wanted to go to an institution with a better academic reputation	○	○	○
I wanted to take a different type of program than was offered at my first institution	○	○	○
I was generally dissatisfied with my first institution	○	○	○
I needed to attend a less expensive school	○	○	○
My financial situation improved so I could attend a more expensive school	○	○	○
I didn't feel safe on the campus of my first institution	○	○	○
I had no place to study at my first institution	○	○	○
I didn't "fit in" at my first institution	○	○	○
Other (Indicate degree of importance)	○	○	○

9. What has been (was) your college enrollment status most of the time since 1978? (Mark one)

○ Full time
○ Part time
○ Not enrolled

10. What has been (was) your employment status most of the time while in college? (Mark one)

○ Not employed
○ Full-time employment off campus
○ Part-time employment off campus
○ Full-time employment on campus
○ Part-time employment on campus

11. In college, how concerned are (were) you about your ability to finance your college education? (Mark one)

○ Very much
○ Somewhat
○ Not at all

12. What is (was) your overall college grade average? (Mark one)

○ A or A+
○ A-
○ B+
○ B
○ B-
○ C+
○ C
○ D

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13. Please indicate your most recent major field of study in college. (Mark one)

ARTS AND HUMANITIES
- Art, fine and applied
- English (language and literature)
- History
- Journalism
- Language and Literature (except English)
- Music
- Philosophy
- Speech
- Theater or Drama
- Theology or Religion
- Other Arts and Humanities

BIOLOGICAL SCIENCE
- Biology (general)
- Biochemistry or Biophysics
- Botany
- Marine (Life) Science
- Microbiology or Bacteriology
- Zoology
- Other Biological Science

BUSINESS
- Accounting
- Business Admin. (general)
- Finance
- Marketing
- Management
- Secretarial Studies
- Other Business

EDUCATION
- Business Education
- Elementary Education
- Music or Art Education
- Physical Education or Recreation
- Secondary Education
- Special Education
- Other Education

ENGINEERING
- Aeronautical or Astronautical Eng.
- Civil Engineering
- Chemical Engineering
- Electrical or Electronic Engineering
- Industrial Engineering
- Mechanical Engineering
- Other Engineering

PHYSICAL SCIENCE
- Astronomy
- Atmospheric Science (incl. Meteorology)
- Chemistry
- Earth Science
- Marine Science (incl. Oceanography)
- Mathematics
- Physics
- Statistics
- Other Physical Science

PROFESSIONAL
- Architecture or Urban Planning
- Home Economics
- Health Technology (medical, dental, laboratory)
- Library or Archival Science
- Nursing
- Pharmacy
- Predental, Premedicine, Preveterinary
- Therapy (occupational, physical, speech)
- Other Professional

SOCIAL SCIENCE
- Anthropology
- Economics
- Geography
- Political Science (gov't., international relations)
- Psychology
- Social Work
- Sociology
- Other Social Science

TECHNICAL
- Building Trades
- Data Processing or Computer Programming
- Drafting or Design
- Electronics
- Mechanics
- Other Technical

OTHER FIELDS
- Agriculture
- Communications (radio, T.V., etc.)
- Computer Science
- Forestry
- Law Enforcement
- Military Science
- Other Field
- Undecided

14. Do (did) you have to study a particular field to get financial aid at college?
(Mark one)

- No
- Yes

15. Where do (did) you live most of the time in college? Where would you prefer (have preferred) to live?
(Mark one in each column)

	Actual Residence	Preferred Residence
College housing (dormitory, fraternity or sorority, other college housing)		
Off campus (private room, apartment, or house)		
Other (Mark appropriate columns)		

16. With whom do (did) you live most of the time at college? With whom would you prefer (have preferred) to live? (Mark one in each column as appropriate)

	Actual	Preferred
With parents or relatives		
Alone		
With disabled roommate or roommates		
With nondisabled roommate or roommates		
With spouse		
Other (Mark appropriate columns)		

17. In college, do (did) you have tutoring or remedial work in any of the following subjects?
(Mark all that apply)

- No
- Yes, reading
- Yes, writing or composition
- Yes, mathematics
- Yes, social studies
- Yes, science
- Yes, foreign language
- Yes, other

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18. What is your probable career occupation? (Mark one)

- Accountant or actuary
- Actor or entertainer
- Architect or urban planner
- Artist
- Business (clerical)
- Business executive (management, administrator)
- Business owner or proprietor
- Business salesman or buyer
- Clergyman (minister, priest)
- Clinical psychologist
- College teacher
- Computer programmer or analyst
- Conservationist or forester
- Dentist (including orthodontist)
- Dietician or home economist
- Engineer
- Farmer or rancher
- Foreign service worker (including diplomat)
- Homemaker (full-time)
- Interior decorator (including designer)
- Interpretor (translator)
- Lab technician or hygienist
- Law enforcement officer
- Lawyer (attorney) or judge
- Military service (career)
- Musician (performer, composer)
- Nurse
- Optometrist
- Pharmacist
- Physician
- School counselor
- School principal or superintendent
- Scientific researcher
- Social, welfare or recreation worker
- Statistician
- Therapist (physical, occupational, speech)
- Teacher or administrator (elementary)
- Teacher or administrator (secondary)
- Veterinarian
- Writer or journalist
- Skilled trades
- Other
- Undecided

19a. In college, is (was) there any one person whose support, encouragement, guidance, or confidence in you is (was) central to your success? (Mark one)

- No (Skip to question 20)
- Yes, a personal friend (outside of school)
- Yes, a family member (e.g., parent or spouse)
- Yes, a high school friend
- Yes, a high school teacher
- Yes, a high school advisor, counselor
- Yes, a college friend
- Yes, a college professor, teacher
- Yes, a college advisor, counselor
- Yes, other

19b. Is this person:
(Mark one for each item below)

A.
- Male
- Female

B.
- Disabled
- Not disabled

C. Age
- 22 years or younger
- 23 to 29 years
- 30 years or older

20. Do you have a disability? (Mark all that apply and write your specific disability in the box below for each area that you mark.)

- No, I do not have a disability (Skip to question 30)
- Yes, visual (partially sighted, blind; not correctable with glasses or contact lenses)

- Yes, hearing
- Yes speech
- Yes, orthopedic
- Yes, learning
- Yes, health-related (e.g., respiratory, heart)
- Yes, emotional
- Yes, other

21. To what extent does (did) your disability area affect your functioning at college? (Mark one column for each of your disability areas)

	Very Much	Somewhat	Not at all
Visual	○	○	○
Hearing	○	○	○
Speech	○	○	○
Orthopedic	○	○	○
Learning	○	○	○
Health-related	○	○	○
Emotional	○	○	○
Other	○	○	○

22. When was (were) your disability (disabilities) diagnosed? (Mark one)

- ○ Prenatally or at birth
- ○ Before age 5
- ○ Between ages 6-12
- ○ Between ages 13-17
- ○ Age 18 or older

23. Do you consider your disability to be: (Mark one)

- ○ Visible/apparent
- ○ Sometimes apparent/sometimes not obvious
- ○ Hidden/not obvious

24. In college, how concerned are (were) you about expenses associated with your disability? (Mark one)

- ○ Very much
- ○ Somewhat
- ○ Not at all
- ○ Not relevant to me

25. To what extent are (were) the facilities and activities of your college community accessible to you? (Mark one)

- ○ Very much
- ○ Somewhat
- ○ Not at all
- ○ Not relevant to me

26. To what extent are (were) the community residents of your college town sensitive to and supportive of you as a disabled person? (Mark one)

- ○ Very much
- ○ Somewhat
- ○ Not at all
- ○ Not relevant to me

27. In college, to what extent does (did) your disability affect your experiences in each of the following areas? (Mark one column for each area)

	Very much	Somewhat	Not at all
Academic	○	○	○
Social	○	○	○
Recreational, extracurricular	○	○	○
Psychological, emotional	○	○	○
Other (Indicate extent)	○	○	○

28. The following is a list of support services and accommodations that you may or may not use (have used) at college. (Mark the appropriate column for each)

	Am Currently Using (Did Use)	Would Use If Available (Would Have Used)	Do (Did) Not Use (Not Relevant to Me)
Existing architectural accommodations (e.g., elevators, stair railings)	○	○	○
Adaptive architectural accommodations (e.g., ramps, adapted restroom facilities)	○	○	○
Adaptive equipment, assistive devices (e.g., tape recorders, braille)	○	○	○
Support service personnel (e.g., interpreters, readers, attendants)	○	○	○
Instructional accommodations	○	○	○
Time accommodations	○	○	○
Program accommodations	○	○	○
Performance evaluation accommodations	○	○	○
Adaptive physical education	○	○	○
Peer counseling from disabled students	○	○	○
Peer counseling from nondisabled students	○	○	○
Academic advising	○	○	○
Personal counseling, therapy	○	○	○
Vocational counseling	○	○	○
Repair services for assistive devices	○	○	○
Disabled student organizations, clubs	○	○	○
Nondisabled student organizations, clubs	○	○	○
Disabled student office, advocate	○	○	○
Legal services	○	○	○
Adaptive admissions criteria	○	○	○
Adaptive admissions procedures	○	○	○
Campus orientation	○	○	○
Financial aid for college expenses (e.g., tuition, books)	○	○	○
Financial aid for cost-of-living expenses (e.g., food, rent)	○	○	○
Financial aid for disability-related expenses	○	○	○
Transportation	○	○	○
Special parking	○	○	○
Registration priority	○	○	○
Other (Mark and specify below appropriate columns)	○	○	○

(Specify) _____

(Specify) _____

29. To what extent do (did) you experience the following at college?
(Mark one column for each statement)

	Frequently	Occasionally	Seldom or Never
Faculty/staff underestimate my academic ability or potential	○	○	○
Faculty/staff overestimate my academic ability or potential	○	○	○
People underestimate my ability to handle frustration and stress	○	○	○
People overestimate my ability to handle frustration and stress	○	○	○
Faculty/staff ask me irrelevant or overly personal questions about my disability	○	○	○
Other students ask me irrelevant or overly personal questions about my disability	○	○	○
Because faculty/staff don't ask me meaningful questions about my disability, I must anticipate and answer such questions	○	○	○
Because other students don't ask me meaningful questions about my disability, I must anticipate and answer such questions	○	○	○
The failure of my instructors to accommodate to my disability-related needs makes academic work more difficult	○	○	○
I can handle risk better and am more independent than most people realize	○	○	○
People patronize me or talk to me as if I were a child	○	○	○
People talk about me rather than to me	○	○	○
My instructors avoid or ignore me	○	○	○
Other students avoid or ignore me	○	○	○
Faculty/staff make me feel that I cause them extra time and trouble	○	○	○
Other students make me feel that I cause them extra time and trouble	○	○	○
Because I have a disability, people assume that:			
I have other physical disabilities that I do not have	○	○	○
I am limited socially	○	○	○
I am limited in what I can do physically	○	○	○
I am limited in what I can do intellectually and academically	○	○	○

30. Rate yourself on each of the following traits as you really think you are when compared with the average person of your own age. We want the most accurate estimate of how you see yourself.
(Mark one column for each trait)

	Above Average	Average	Below Average
Academic ability	○	○	○
Athletic ability	○	○	○
Artistic ability	○	○	○
Defensiveness	○	○	○
Drive to achieve	○	○	○
Leadership ability	○	○	○
Mathematical ability	○	○	○
Mechanical ability	○	○	○
Originality	○	○	○
Physical attractiveness	○	○	○
Political conservatism	○	○	○
Political liberalism	○	○	○
Popularity	○	○	○
Popularity with the opposite sex	○	○	○
Public speaking ability	○	○	○
Self-confidence (intellectual)	○	○	○
Self-confidence (social)	○	○	○
Sense of humor	○	○	○
Sensitivity to criticism	○	○	○
Stubborness	○	○	○
Understanding of others	○	○	○
Writing ability	○	○	○

31. How important is each of the following to you personally? (Mark one column for each item)

	Essential	Important	Not Important
Becoming accomplished in one of the performing arts (acting, dancing, etc.)	○	○	○
Becoming an authority in my field	○	○	○
Obtaining recognition from my colleagues for contributions to my special field	○	○	○
Influencing the political structure	○	○	○
Influencing social values	○	○	○
Raising a family	○	○	○
Having administrative responsiblity for the work of others	○	○	○
Being very well-off financially	○	○	○
Helping others who are in difficulty	○	○	○
Making a theoretical contribution to science	○	○	○
Writing original works (poems, novels, short stories, etc.)	○	○	○
Creating artistic work (painting, sculpture, decorating, etc.)	○	○	○
Being successful in a business of my own	○	○	○
Becoming involved in programs to clean up the environment	○	○	○
Developing a meaningful philosophy of life	○	○	○
Participating in a community action program	○	○	○
Helping to promote racial understanding	○	○	○
Keeping up-to-date with political affairs	○	○	○
Helping to promote the interests of the disabled	○	○	○

32. **Age (as of December 31, 1969)** (Mark one)
- 22 years or younger
- 23-29 years
- 30 years or older

33. **Are you:** (Mark one)
- Single (never married)
- Married
- Separated, divorced, or widowed

34. **Do you have children?** (Mark one)
- No
- Yes, one child
- Yes, more than one child

35. **What is your current religious preference?** (Mark one)
- Protestant
- Roman Catholic
- Jewish
- Other
- Undecided
- None

36. **Do you consider yourself a born-again Christian?** (Mark one)
- No
- Yes

37. **Indicate your income sources:** (Mark one column for each item)

	Major	Minor	Not a Source
Parents, relatives, inheritance, etc.	○	○	○
Spouse	○	○	○
Self (earnings from employment, savings, etc.)	○	○	○
Social Security benefits	○	○	○
Veterans' benefits	○	○	○
Vocational Rehabilitation funds	○	○	○
Supplementary Support Income	○	○	○
Federal college-related financial aid (loan, grant, etc.)	○	○	○
Scholarship from college	○	○	○
Scholarship from outside agency, organization	○	○	○
Other (Mark appropriate column)	○	○	○

38. **What is your current annual income from all sources?** (Mark one)
- ○ No income
- ○ $4,999 or below
- ○ $5,000-$9,999
- ○ $10,000-$19,999
- ○ $20,000 or above

39. **Which of the following life patterns would you prefer ten to fifteen years from now?** (Please indicate one answer in each group)

(a)
- ○ single
- ○ married
- ○ living with a person of opposite sex but not married
- ○ other

(b)
- ○ no children
- ○ one child
- ○ two children
- ○ three or more children
- ○ adopt one or more children

(c)
- ○ full-time career
- ○ part-time career
- ○ not employed

40. **How would you characterize your political views?** (Mark one)
- ○ Far left
- ○ Liberal
- ○ Middle-of-the-road
- ○ Conservative
- ○ Far right

41. **How long did it take you to answer this questionnaire?** (Mark one)
- ○ Less than ½ hour
- ○ ½ hour to 1 hour
- ○ 1 hour to 1½ hours
- ○ 1½ hours to 2 hours
- ○ More than 2 hours

42. **Did you need help to answer this survey?** (Mark all that apply)
- ○ No
- ○ Yes, reading
- ○ Yes, marking or writing answers

THANK YOU VERY MUCH FOR YOUR HELP.

PLEASE ADD COMMENTS ON A SEPARATE SHEET OF PAPER.

OFFICE USE ONLY	12321	⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨

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APPENDIX B

337501

PLEASE PRINT YOUR NAME _____ (First / Middle or Maiden / Last)

HOME STREET ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____ ( ) Area Code Home Phone No.

When were you born?

Month (01-12) | Day (01-31) | Year

1978 STUDENT INFORMATION FORM

DIRECTIONS

Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

- Use only black lead pencil (No. 2 or less).
- Make heavy black marks that fill the circle.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

EXAMPLE:

Will marks made with ball pen or fountain pen be properly read? Yes . . ○ No . . ●

Dear Student:

The information in this form is being collected as part of a continuing study of higher education conducted jointly by the American Council on Education and the University of California at Los Angeles. Your voluntary participation in this research is being solicited in order to achieve a better understanding of how students are affected by their college experiences. Detailed information on the goals and design of this research program are furnished in research reports available from the Laboratory for Research on Higher Education at UCLA. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your response will be held in the strictest professional confidence.

Sincerely,

Alexander W. Astin

Alexander W. Astin, Director
Cooperative Institutional Research Program

DO NOT MARK IN THIS AREA

MARK IN THIS AREA ONLY IF DIRECTED | GRP. CODE

1. Your sex: Male . . ○ Female . . ○

2. Are you a veteran?
(Mark one) No . . ○ Yes . . ○

3. How old will you be on December 31 of this year? (Mark one)

16 or younger	○	21	○
17	○	22	○
18	○	23-25	○
19	○	26-29	○
20	○	30 or older	○

4. In what year did you graduate from high school? (Mark one)

1978	○	Did not graduate but	
1977	○	passed G.E.D. test	○
1976	○	Never completed	
1975 or earlier	○	high school	○

(Note: Please check that your pencil markings are completely darkening the circles. Do not use pen or make ✓'s or ✗'s. Thank You.)

5. Was your high school program: (Mark one)
College preparatory? . . . . . ○
Other? (For ex., vocational) . . . . . ○

6. What was your average grade in high school?
(Mark one)

A or A+	○	B-	○
A-	○	C+	○
B+	○	C	○
B	○	D	○

7. How well do you feel that your high school prepared you in the following areas:

(Mark one in each row)	Very Well	Fairly Well	Poorly
Mathematical skills	○	○	○
Reading and composition	○	○	○
Foreign languages	○	○	○
Science	○	○	○
History, social sciences	○	○	○
Vocational skills	○	○	○
Musical and artistic skills	○	○	○
Study habits	○	○	○

8. Are you enrolled (or enrolling) as a:
(Mark one) Full-time student? . . ○
Part-time student? . . ○

9. Prior to this term, have you ever taken courses for credit at this institution?
Yes . . . ○ No . . . ○

10. Since leaving high school, have you ever taken courses at any other institution?

(Mark all that apply in each column)	For Credit	Not for Credit
No	○	○
Yes, at a junior or cmty. college	○	○
Yes, at a four-year college or university	○	○
Yes, at some other postsecondary school (For ex., technical, vocational, business)	○	○

11. Have you had, or do you feel that you will need, any special tutoring or remedial work in any of the following subjects?
(Mark all that apply)

	Have Had	Will Need		Have Had	Will Need
English	○	○	Social studies	○	○
Reading	○	○	Science	○	○
Mathematics	○	○	Foreign language	○	○

12. How many miles is this college from your permanent home? (Mark one)

5 or less	○	51-100	○
6-10	○	101-500	○
11-50	○	More than 500	○

13. Where do you plan to live during the fall term? If you had a choice, where would you have preferred to live?

(Mark one in each column)	Plan To Live	Prefer To Live
With parents or relatives	○	○
Other private home, apt. or rm.	○	○
College dormitory	○	○
Fraternity or sorority house	○	○
Other campus student housing	○	○
Other	○	○

14. Is this college your: (Mark one)
First choice? . . ○
Second choice? . ○
Third choice? . . ○
Less than third choice? . . . . . ○

15. To how many colleges other than this one did you apply for admission this year?

No other	○	1.	○	3.	○
		2.	○	4.	○
5	○	6 or more	○		

Note: If you applied to no other college, skip to item 17 on the next page.

16. How many other acceptances did you receive this year? (Mark one)

None	○	1.	○	3.	○
		2.	○	4.	○
5	○	6 or more	○		

17. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below?

(Mark one answer for each possible source)

	None	$1–$499	$500–$999	$1,000–$1,499	$1,500–$2,000	Over $2,000
Parental or family aid, or gifts	○	○	○	○	○	○
Grants or Scholarships:						
Basic Educational Opportunity Grant	○	○	○	○	○	○
Supplemental Educational Opportunity Grant	○	○	○	○	○	○
State scholarship or grant	○	○	○	○	○	○
College grant (other than above)	○	○	○	○	○	○
Other private grant	○	○	○	○	○	○
Loans:						
Fed. guaranteed student loan	○	○	○	○	○	○
Nat'l direct student loan	○	○	○	○	○	○
Other college loan	○	○	○	○	○	○
Other loan	○	○	○	○	○	○
Work and Savings:						
College Work-Study grant	○	○	○	○	○	○
Other part-time work while attending	○	○	○	○	○	○
Full-time work while attending	○	○	○	○	○	○
Savings from summer work	○	○	○	○	○	○
Other savings	○	○	○	○	○	○
Spouse	○	○	○	○	○	○
Your G.I. benefits	○	○	○	○	○	○
Your parent's G.I. benefits	○	○	○	○	○	○
Social secur. dependent's benefits	○	○	○	○	○	○
Other	○	○	○	○	○	○

18. Please answer the following questions regarding BEOG (Basic Educational Opportunity Grant) and GSL (Guaranteed Student Loan) financial aid programs. (Mark all that apply in each column)

	BEOG Grants	GSL Loans
I have heard of this program	○	○
I applied for aid from this program	○	○
I qualified for aid in this program (whether or not I applied)	○	○

19. Were you last year, or will you be this year:

	Yes	No
Living with your parents (for more than two consecutive weeks)	○	○
Listed as an exemption on your parents' Federal Income Tax Return	○	○
Receiving assistance worth $600 or more from your parents	○	○

20. Are you: (Mark one)

- Not presently married ○
- Married, living with spouse ○
- Married, not living with spouse ○

21. Are you: (Mark all that apply)

- White Caucasian ○
- Black, Negro/Afro-American ○
- American Indian ○
- Asian-American/Oriental ○
- Mexican-American, Chicano ○
- Puerto Rican-American ○
- Other ○

22. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark (F). If you engaged in an activity one or more times, but not frequently, mark (O) (occasionally). Mark (N) (not at all) if you have not performed the activity during the past year.

(Mark one for each item)

	Frequently	Occasionally	Not at all
Played a musical instrument	(F)	(O)	(N)
Attended a religious service	(F)	(O)	(N)
Smoked cigarettes	(F)	(O)	(N)
Took vitamins	(F)	(O)	(N)
Participated in organized demonstrations	(F)	(O)	(N)
Took a tranquilizing pill	(F)	(O)	(N)
Wore glasses or contact lenses	(F)	(O)	(N)
Attended a public recital or concert	(F)	(O)	(N)
Took sleeping pills	(F)	(O)	(N)
Jogged	(F)	(O)	(N)
Stayed up all night	(F)	(O)	(N)
Drank beer	(F)	(O)	(N)
Worked in a local, state, or national political campaign	(F)	(O)	(N)

23. Where did you rank academically in your high school graduating class? (Mark one)

Top Quarter ○ 3rd Quarter ○
2nd Quarter ○ Lowest Quarter ○

24a. Do you consider yourself physically handicapped?

No ○ (Go to Question Number 25)
Yes ○

24b. If yes, what type of handicap do you have? (Mark all that apply)

Hearing ○ Orthopedic ○
Speech ○ Learning disability ○
Visual ○ Other ○

24c. Does your handicap require architectural accommodations (wheelchair ramps, elevators, etc.)? Yes ○ No ○

25. What is the highest academic degree that you intend to obtain?

(Mark one in each column)

	Highest Planned	Highest Planned at this college
None	○	○
Associate (A.A. or equivalent)	○	○
Bachelor's degree (B.A., B.S., etc.)	○	○
Master's degree (M.A., M.S., etc.)	○	○
Ph.D. or Ed.D.	○	○
M.D., D.O., D.D.S., or D.V.M.	○	○
LL.B. or J.D. (Law)	○	○
B.D. or M.Div. (Divinity)	○	○
Other	○	○

26a. How many persons are currently dependent on your parents for support (include yourself and your parents, if applicable)?

1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 or more ○

26b. How many of these dependents other than yourself are currently attending college?

None ○ 1 ○ 2 ○ 3 or more ○

27. In deciding to go to college, how important to you was each of the following reasons?

(Mark one answer for each possible reason)

	Very important	Somewhat important	Not important
My parents wanted me to go	(V)	(S)	(N)
I could not find a job	(V)	(S)	(N)
I wanted to get away from home	(V)	(S)	(N)
To be able to get a better job	(V)	(S)	(N)
To gain a general education and appreciation of ideas	(V)	(S)	(N)
To improve my reading and study skills	(V)	(S)	(N)
There was nothing better to do	(V)	(S)	(N)
To make me a more cultured person	(V)	(S)	(N)
To be able to make more money	(V)	(S)	(N)
To learn more about things that interest me	(V)	(S)	(N)
To meet new and interesting people	(V)	(S)	(N)
To prepare myself for graduate or professional school	(V)	(S)	(N)

28. Do you have any concern about your ability to finance your college education? (Mark one)

- None (I am confident that I will have sufficient funds) ○
- Some concern (but I will probably have enough funds) ○
- Major concern (not sure I will have enough funds to complete college) ○

29. How would you characterize your political views? (Mark one)

- Far left ○
- Liberal ○
- Middle-of-the-road ○
- Conservative ○
- Far right ○

30. What is your best estimate of your parents' total income last year? Consider annual income from all sources before taxes. (Mark one)

Less than $3,000 ○	$15,000–19,999 ○
$3,000–3,999 ○	$20,000–24,999 ○
$4,000–5,999 ○	$25,000–29,999 ○
$6,000–7,999 ○	$30,000–34,999 ○
$8,000–9,999 ○	$35,000–39,999 ○
$10,000–12,499 ○	$40,000–49,999 ○
$12,500–14,999 ○	$50,000 or more ○

31. What is the highest level of formal education obtained by your parents?

(Mark one in each column)

	Father	Mother
Grammar school or less	○	○
Some high school	○	○
High school graduate	○	○
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

32. Mark only three responses, one in each column.

(M) Your mother's occupation.
(F) Your father's occupation.
(Y) Your probable career occupation

NOTE: If your father (or mother) is deceased, please indicate his (her) last occupation.

	Y	F	M
Accountant or actuary	Y	F	M
Actor or entertainer	Y	F	M
Architect or urban planner	Y	F	M
Artist	Y	F	M
Business (clerical)	Y	F	M
Business executive (management, administrator)	Y	F	M
Business owner or proprietor	Y	F	M
Business salesman or buyer	Y	F	M
Clergyman (minister, priest)	Y	F	M
Clergy (other religious)	Y	F	M
Clinical psychologist	Y	F	M
College teacher	Y	F	M
Computer programmer or analyst	Y	F	M
Conservationist or forester	Y	F	M
Dentist (including orthodontist)	Y	F	M
Dietitian or home economist	Y	F	M
Engineer	Y	F	M
Farmer or rancher	Y	F	M
Foreign service worker (including diplomat)	Y	F	M
Homemaker (full-time)	Y	F	M
Interior decorator (including designer)	Y	F	M
Interpretor (translator)	Y	F	M
Lab technician or hygienist	Y	F	M
Law enforcement officer	Y	F	M
Lawyer (attorney) or judge	Y	F	M
Military service (career)	Y	F	M
Musician (performer, composer)	Y	F	M
Nurse	Y	F	M
Optometrist	Y	F	M
Pharmacist	Y	F	M
Physician	Y	F	M
School counselor	Y	F	M
School principal or superintendent	Y	F	M
Scientific researcher	Y	F	M
Social, welfare or recreation worker	Y	F	M
Statistician	Y	F	M
Therapist (physical, occupational, speech)	Y	F	M
Teacher or administrator (elementary)	Y	F	M
Teacher or administrator (secondary)	Y	F	M
Veterinarian	Y	F	M
Writer or journalist	Y	F	M
Skilled trades	Y	F	M
Other	Y		
Undecided	Y		
Laborer (unskilled)		F	M
Semi-skilled worker		F	M
Other occupation		F	M
Unemployed		F	M

33. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

	Very important	Somewhat important	Not important
My relatives wanted me to come here	V	S	N
My teacher advised me	V	S	N
This college has a very good academic reputation	V	S	N
I was offered financial assistance	V	S	N
I was not accepted anywhere else	V	S	N
Someone who had been here before advised me to go	V	S	N
This college offers special educational programs	V	S	N
This college has low tuition	V	S	N
My guidance counselor advised me	V	S	N
I wanted to live at home	V	S	N
A friend suggested attending	V	S	N
A college representative recruited me	V	S	N

BE SURE TO ANSWER QUESTION 34.

34a. Current religious preference: (Mark one in each column)

	Yours	Father's	Mother's
Baptist	Y	F	M
Congregational (U.C.C.)	Y	F	M
Eastern Orthodox	Y	F	M
Episcopal	Y	F	M
Jewish	Y	F	M
Latter Day Saints (Mormon)	Y	F	M
Lutheran	Y	F	M
Methodist	Y	F	M
Muslim	Y	F	M
Presbyterian	Y	F	M
Quaker (Society of Friends)	Y	F	M
Roman Catholic	Y	F	M
Seventh Day Adventist	Y	F	M
Unitarian-Universalist	Y	F	M
Other Protestant	Y	F	M
Other Religion	Y	F	M
None	Y	F	M

34b. Do you consider yourself a reborn Christian? Yes ○ No ○

35. Mark one in each row:

(1) Disagree Strongly
(2) Disagree Somewhat
(3) Agree Somewhat
(4) Agree Strongly

	4	3	2	1
The Federal government is not doing enough to control environmental pollution	4	3	2	1
The Federal government is not doing enough to protect the consumer from faulty goods and services	4	3	2	1
The Federal government should do more to discourage energy consumption	4	3	2	1
There is too much concern in the courts for the rights of criminals	4	3	2	1
Urban problems cannot be solved without huge investments of Federal monies	4	3	2	1
People should not obey laws which violate their personal values	4	3	2	1
The death penalty should be abolished	4	3	2	1
A national health care plan is needed to cover everybody's medical costs	4	3	2	1
Energy shortages could cause a major depression or even wars in my lifetime if action is not taken now to prevent them	4	3	2	1
Abortion should be legalized	4	3	2	1
Grading in the high schools has become too easy	4	3	2	1
The activities of married women are best confined to the home and family	4	3	2	1
A couple should live together for some time before deciding to get married	4	3	2	1
Parents should be discouraged from having large families	4	3	2	1
Divorce laws should be liberalized	4	3	2	1
If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time	4	3	2	1
Women should receive the same salary and opportunities for advancement as men in comparable positions	4	3	2	1
Wealthy people should pay a larger share of taxes than they do now	4	3	2	1
Marijuana should be legalized	4	3	2	1
Busing is O.K. if it helps to achieve racial balance in the schools	4	3	2	1
It is important to have laws prohibiting homosexual relationships	4	3	2	1
College officials have the right to regulate student behavior off campus	4	3	2	1
Faculty promotions should be based in part on student evaluations	4	3	2	1
College grades should be abolished	4	3	2	1
Colleges would be improved if organized sports were de-emphasized	4	3	2	1
Student publications should be cleared by college officials	4	3	2	1
College officials have the right to ban persons with extreme views from speaking on campus	4	3	2	1
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions	4	3	2	1
Open admissions (admitting anyone who applies) should be adopted by all publicly supported colleges	4	3	2	1
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	4	3	2	1

36. Below is a list of different undergraduate major fields grouped into general categories. Mark only one circle to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied
- English (language and literature)
- History
- Journalism
- Language and Literature (except English)
- Music
- Philosophy
- Speech
- Theater or Drama
- Theology or Religion
- Other Arts and Humanities

BIOLOGICAL SCIENCE
- Biology (general)
- Biochemistry or Biophysics
- Botany
- Marine (Life) Science
- Microbiology or Bacteriology
- Zoology
- Other Biological Science

BUSINESS
- Accounting
- Business Admin. (general)
- Finance
- Marketing
- Management
- Secretarial Studies
- Other Business

EDUCATION
- Business Education
- Elementary Education
- Music or Art Education
- Physical Education or Recreation
- Secondary Education
- Special Education
- Other Education

ENGINEERING
- Aeronautical or Astronautical Eng.
- Civil Engineering
- Chemical Engineering
- Electrical or Electronic Engineering
- Industrial Engineering
- Mechanical Engineering
- Other Engineering

PHYSICAL SCIENCE
- Astronomy
- Atmospheric Science (incl. Meteorology)
- Chemistry
- Earth Science
- Marine Science (incl. Oceanography)
- Mathematics
- Physics
- Statistics
- Other Physical Science

PROFESSIONAL
- Architecture or Urban Planning
- Home Economics
- Health Technology (medical, dental, laboratory)
- Library or Archival Science
- Nursing
- Pharmacy
- Predental, Premedicine, Preveterinary
- Therapy (occupational, physical, speech)
- Other Professional

SOCIAL SCIENCE
- Anthropology
- Economics
- Geography
- Political Science (gov't., international relations)
- Psychology
- Social Work
- Sociology
- Other Social Science

TECHNICAL
- Building Trades
- Data Processing or Computer Programming
- Drafting or Design
- Electronics
- Mechanics
- Other Technical

OTHER FIELDS
- Agriculture
- Communications (radio, T.V., etc.)
- Computer Science
- Forestry
- Law Enforcement
- Military Science
- Other Field
- Undecided

37. Indicate the importance to you personally of each of the following: (Mark one for each item)

(N) Not Important — (S) Somewhat Important — (V) Very Important — (E) Essential

	E	V	S	N
Becoming accomplished in one of the performing arts (acting, dancing, etc.)	E	V	S	N
Becoming an authority in my field	E	V	S	N
Obtaining recognition from my colleagues for contributions to my special field	E	V	S	N
Influencing the political structure	E	V	S	N
Influencing social values	E	V	S	N
Raising a family	E	V	S	N
Having administrative responsibility for the work of others	E	V	S	N
Being very well off financially	E	V	S	N
Helping others who are in difficulty	E	V	S	N
Making a theoretical contribution to science	E	V	S	N
Writing original works (poems, novels, short stories, etc.)	E	V	S	N
Creating artistic work (painting, sculpture, decorating, etc.)	E	V	S	N
Being successful in a business of my own	E	V	S	N
Becoming involved in programs to clean up the environment	E	V	S	N
Developing a meaningful philosophy of life	E	V	S	N
Participating in a community action program	E	V	S	N
Helping to promote racial understanding	E	V	S	N
Keeping up to date with political affairs	E	V	S	N

38. What is your best guess as to the chances that you will: (Mark one for each item)

(N) No Chance — (L) Very Little Chance — (S) Some Chance — (V) Very Good Chance

	V	S	L	N
Change major field?	V	S	L	N
Change career choice?	V	S	L	N
Fail one or more courses?	V	S	L	N
Graduate with honors?	V	S	L	N
Be elected to a student office?	V	S	L	N
Get a job to help pay for college expenses?	V	S	L	N
Join a social fraternity, sorority, or club?	V	S	L	N
Live in a coeducational dorm?	V	S	L	N
Be elected to an academic honor society?	V	S	L	N
Make at least a "B" average?	V	S	L	N
Need extra time to complete your degree requirements?	V	S	L	N
Get tutoring help in specific courses?	V	S	L	N
Have to work at an outside job during college?	V	S	L	N
Seek vocational counseling?	V	S	L	N
Seek individual counseling on personal problems?	V	S	L	N
Get a bachelor's degree (B.A., B.S., etc.)?	V	S	L	N
Participate in student protests or demonstrations?	V	S	L	N
Drop out of this college temporarily (exclude transferring)?	V	S	L	N
Drop out permanently (exclude transferring)?	V	S	L	N
Transfer to another college before graduating?	V	S	L	N
Be satisfied with your college?	V	S	L	N
Find a job after college in the field for which you were trained?	V	S	L	N
Get married while in college? (skip if married)	V	S	L	N
Get married within a year after college? (skip if married)	V	S	L	N

The Laboratory for Research on Higher Education at UCLA actively encourages the colleges that participate in this survey to conduct local studies of their student bodies. If these studies involve collecting follow-up data, it is necessary for the institution to know the students' ID numbers so that follow-up data can be linked with the data from this survey. If your college asks for a tape copy of the data and signs an agreement to use it only for research purposes, do we have your permission to include your ID number in such a tape? Yes ◯ No ◯

39. (A) (B) (C) (D) (E)	The remaining circles are provided for items specifically designed by your college, rather than by the Laboratory for Research on Higher Education. If your college has chosen to use the circles, observe carefully the supplemental directions given you.		44. (A) (B) (C) (D) (E)
40. (A) (B) (C) (D) (E)			45. (A) (B) (C) (D) (E)
41. (A) (B) (C) (D) (E)			46. (A) (B) (C) (D) (E)
42. (A) (B) (C) (D) (E)			47. (A) (B) (C) (D) (E)
43. (A) (B) (C) (D) (E)	THANK YOU!		48. (A) (B) (C) (D) (E)

Prepared by the Laboratory for Research on Higher Education, University of California, Los Angeles, California 90024. Processed by Intran Corporation, 4555 West 77th Street, Minneapolis, Minnesota 55435.

APPENDIX C

1978 Student Information Form: Percentage Responses for Nondisabled Freshmen (N=626,333)

1. Your sex: Male . 49 Female . . 51

2. Are you a veteran?
(Mark one) No . 99 Yes . . 1

3. How old will you be on December 31 of this year? (Mark one)

16 or younger	0	21	0
17	3	22	0
18	76	23-25	1
19	16	26-29	0
20	2	30 or older	0

4. In what year did you graduate from high school? (Mark one)

1978	94	Did not graduate but	
1977	3	passed G.E.D. test	1
1976	1	Never completed	
1975 or earlier	2	high school	0

5. Was your high school program: (Mark one)

College preparatory? . . . . . .
Other? (For ex., vocational) . . . . . .

6. What was your average grade in high school?
(Mark one)

A or A+	10	B-	12
A-	13	C+	10
B+	21	C	6
B	27	D	0

7. How well do you feel that your high school prepared you in the following areas:

(Mark one in each row)	Very Well	Fairly Well	Poorly
Mathematical skills	32	54	15
Reading and composition	35	55	10
Foreign languages	17	46	37
Science	35	55	10
History, social sciences	40	54	6
Vocational skills	19	47	34
Musical and artistic skills	24	41	34
Study habits	19	56	25

11. Have you had, or do you feel that you will need, any special tutoring or remedial work in any of the following subjects?
(Mark all that apply)

	Have Had	Will Need		Have Had	Will Need
English	10	14	Social studies	10	4
Reading	11	8	Science	9	13
Mathematics	10	24	Foreign language	6	14

12. How many miles is this college from your permanent home? (Mark one)

5 or less	10	51-100	15
6-10	12	101-500	28
11-50	27	More than 500	8

13. Where do you plan to live during the fall term? If you had a choice, where would you have preferred to live?

(Mark one in each column)	Plan To Live	Prefer To Live
With parents or relatives	36	19
Other private home, apt. or rm.	6	24
College dormitory	56	47
Fraternity or sorority house	1	4
Other campus student housing	2	4
Other	1	2

14. Is this college your: (Mark one)

First choice?	76	Less than third choice?	2
Second choice?	18		
Third choice?	4		

15. To how many colleges other than this one did you apply for admission this year?

No other	1. 18	3. 14	5	4
	2. 18	4. 6	6 or more	3

◆ Note: If you applied to no other college, skip to item 17 on the next page

16. How many other acceptances did you receive this year? (Mark one)

None	20	1. 31	3. 15	5	2
		2. 24	4. 6	6 or more	2

19. Were you last year, or will you be this year:

	Yes	No
Living with your parents (for more than two consecutive weeks)	92	8
Listed as an exemption on your parents' Federal Income Tax Return	83	17
Receiving assistance worth $600 or more from your parents	66	34

20. Are you: (Mark one)

Not presently married	99
Married, living with spouse	1
Married, not living with spouse	0

21. Are you: (Mark all that apply)

White/Caucasian	87
Black/Negro/Afro-American	8
American Indian	1
Asian-American/Oriental	0
Mexican-American/Chicano	1
Puerto Rican-American	1
Other	2

22. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark (F). If you engaged in an activity one or more times, but not frequently, mark (O) (occasionally). Mark (N) (not at all) if you have not performed the activity during the past year.

(Mark one for each item)

	Frequently	Occasionally	Not at all
Played a musical instrument	23	21	56
Attended a religious service	48	38	14
Smoked cigarettes	14	15	71
Took vitamins	18	40	42
Participated in organized demonstrations	3	14	83
Took a tranquilizing pill	0	5	95
Wore glasses or contact lenses	35	11	55
Attended a public recital or concert	21	61	18
Took sleeping pills	0	3	97
Jogged	24	58	18
Stayed up all night	7	61	32
Drank beer	22	52	26
Worked in a local, state, or national political campaign	1	8	91

23. Where did you rank academically in your high school graduating class? (Mark one)

Top Quarter . . ○ 46 3rd Quarter . . . . ○ 18
2nd Quarter . . ○ 34 Lowest Quarter . . ○ 2

25. What is the highest academic degree that you intend to obtain?

(Mark one in each column)

	Highest Planned	Highest Planned at this college
None	2	4
Associate (A.A. or equivalent)	8	26
Bachelor's degree (B.A., B.S., etc.)	38	53
Master's degree (M.A., M.S., etc.)	30	10
Ph.D. or Ed.D.	9	2
M.D., D.O., D.D.S., or D.V.M.	6	2
LL.B. or J.D. (Law)	4	1
B.D. or M.Div. (Divinity)	0	1
Other	3	2

26a. How many persons are currently dependent on your parents for support (include yourself and your parents, if applicable)?

1 5 2 9 3 19 4 26 5 22 6 or more 19

26b. How many of these dependents other than yourself are currently attending college?

None 66 1 26 2 6 3 or more 3

27. In deciding to go to college, how important to you was each of the following reasons?

(Mark one answer for each possible reason)

	Very important	Somewhat
My parents wanted me to go	29	49
I could not find a job	4	9
I wanted to get away from home	8	32
To be able to get a better job	75	19
To gain a general education and appreciation of ideas	68	30
To improve my reading and study skills	37	49
There was nothing better to do	2	8
To make me a more cultured person	34	48
To be able to make more money	61	33
To learn more about things that interest me	73	25
To meet new and interesting people	56	39
To prepare myself for graduate or professional school	44	33

28. Do you have any concern about your ability to finance your college education? (Mark one)

None (I am confident that I will have sufficient funds) 35
Some concern (but I will probably have enough funds) 50
Major concern (not sure I will have enough funds to complete college) 14

29. How would you characterize your political views? (Mark one)

Far left	2
Liberal	23
Middle-of-the-road	59
Conservative	16
Far right	0

30. What is your best estimate of your parents' total income last year? Consider annual income from all sources before taxes. (Mark one)

Less than $3,000	3	$15,000–19,999	1
$3,000–3,999	2	$20,000–24,999	1
$4,000–5,999	3	$25,000–29,999	1
$6,000–7,999	4	$30,000–34,999	
$8,000–9,999	4	$35,000–39,999	
$10,000–12,499	8	$40,000–49,999	
$12,500–14,999	9	$50,000 or more	

31. What is the highest level of formal education obtained by your parents?

(Mark one in each column)	Father	Moth
Grammar school or less	5	4
Some high school	11	9
High school graduate	29	43
Postsecondary school other than college	4	7
Some college	13	14
College degree	20	16
Some graduate school	3	2
Graduate degree	14	6

33. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

	Very important	Somewhat important	Not important
My relatives wanted me to come here	6	20	74
My teacher advised me	4	26	70
This college has a very good academic reputation	50	41	9
I was offered financial assistance	14	18	68
I was not accepted anywhere else	3	5	92
Someone who had been here before advised me to go	14	42	44
This college offers special educational programs	26	37	36
This college has low tuition	17	37	46
My guidance counselor advised me	8	30	62
I wanted to live at home	10	16	74
A friend suggested attending	6	31	63
A college representative recruited me	4	12	84

34a. Current religious preference:
(Mark one in each column)

Baptist	13
Congregational (U.C.C.)	2
Eastern Orthodox	1
Episcopal	3
Jewish	4
Latter Day Saints (Mormon)	0
Lutheran	5
Methodist	10
Muslim	0
Presbyterian	6
Quaker (Society of Friends)	0
Roman Catholic	38
Seventh Day Adventist	0
Unitarian-Universalist	0
Other Protestant	5
Other Religion	4
None	8

34b. Do you consider yourself a reborn Christian? Yes 30 No 70

35.

The Federal government is not doing enough to control environmental pollution	82
The Federal government is not doing enough to protect the consumer from faulty goods and services	73
The Federal government should do more to discourage energy consumption	82
There is too much concern in the courts for the rights of criminals	66
Urban problems cannot be solved without huge investments of Federal monies	49
People should not obey laws which violate their personal values	32
The death penalty should be abolished	33
A national health care plan is needed to cover everybody's medical costs	60
Energy shortages could cause a major depression or even wars in my lifetime if action is not taken now to prevent them	80
Abortion should be legalized	57
Grading in the high schools has become too easy	64
The activities of married women are best confined to the home and family	27
A couple should live together for some time before deciding to get married	45
Parents should be discouraged from having large families	48
Divorce laws should be liberalized	49
If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time	48
Women should receive the same salary and opportunities for advancement as men in comparable positions	93
Wealthy people should pay a larger share of taxes than they do now	73
Marijuana should be legalized	49
Busing is O.K. if it helps to achieve racial balance in the schools	41
It is important to have laws prohibiting homosexual relationships	46
College officials have the right to regulate student behavior off campus	14
Faculty promotions should be based in part on student evaluations	72
College grades should be abolished	16
Colleges would be improved if organized sports were de-emphasized	27
Student publications should be cleared by college officials	36
College officials have the right to ban persons with extreme views from speaking on campus	26
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions	35
Open admissions (admitting anyone who applies) should be adopted by all publicly supported colleges	33
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	78

Percentage marking essential or very important

37. Indicate the importance to you personally of each of the following:

Becoming accomplished in one of the performing arts (acting, dancing, etc.)	13
Becoming an authority in my field	73
Obtaining recognition from my colleagues for contributions to my special field	51
Influencing the political structure	15
Influencing social values	32
Raising a family	63
Having administrative responsibility for the work of others	36
Being very well off financially	60
Helping others who are in difficulty	66
Making a theoretical contribution to science	15
Writing original works (poems, novels, short stories, etc.)	13
Creating artistic work (painting, sculpture, decorating, etc.)	14
Being successful in a business of my own	49
Becoming involved in programs to clean up the environment	28
Developing a meaningful philosophy of life	57
Participating in a community action program	27
Helping to promote racial understanding	34
Keeping up to date with political affairs	37

38. What is your best guess as to the chances that you will:

Change major field?	12
Change career choice?	12
Fail one or more courses?	2
Graduate with honors?	12
Be elected to a student office?	3
Get a job to help pay for college expenses?	41
Join a social fraternity, sorority, or club?	18
Live in a coeducational dorm?	26
Be elected to an academic honor society?	8
Make at least a "B" average?	42
Need extra time to complete your degree requirements?	5
Get tutoring help in specific courses?	9
Have to work at an outside job during college?	24
Seek vocational counseling?	7
Seek individual counseling on personal problems?	4
Get a bachelor's degree (B.A., B.S., etc.)?	65
Participate in student protests or demonstrations?	3
Drop out of this college temporarily (exclude transferring)?	1
Drop out permanently (exclude transferring)?	1
Transfer to another college before graduating?	11
Be satisfied with your college?	56
Find a job after college in the field for which you were trained?	67
Get married while in college? (skip if married)	5
Get married within a year after college? (skip if married)	15.

Prepared by the Laboratory for Research on Higher Education, University of California, Los Angeles, California 90024. Processed by Intran Corporation, 4555 West 77th Street, Minneapolis, Minnesota 55435

APPENDIX D

1978 Student Information Form: Percentage Responses for Disabled Follow-up Respondents (N=3,338)

1. Your sex: Male . . 47 Female . . 53

2. Are you a veteran?
(Mark one) No . . 96 Yes . . 4

3. How old will you be on December 31 of this year? (Mark one)

16 or younger		21	
17		22	3
18	62	23-25	2
19		26-29	2
20	27	30 or older	5

4. In what year did you graduate from high school? (Mark one)

1978	81	Did not graduate but	
1977	6	passed G.E.D. test	2
1976	2	Never completed	
1975 or earlier	8	high school	0

5. Was your high school program: (Mark one)

College preparatory?	86
Other? (For ex., vocational)	14

6. What was your average grade in high school? (Mark one)

A or A+	13	B-	10
A-	14	C+	8
B+	24	C	7
B	23	D	0

7. How well do you feel that your high school prepared you in the following areas:

(Mark one in each row)	Very Well	Fairly Well	Poorly
Mathematical skills	34	49	17
Reading and composition	37	49	14
Foreign languages	18	41	41
Science	35	53	12
History, social sciences	41	51	8
Vocational skills	19	42	38
Musical and artistic skills	27	41	32
Study habits	21	54	25

11. Have you had, or do you feel that you will need, any special tutoring or remedial work in any of the following subjects? (Mark all that apply)

	Have Had	Will Need		Have Had	Will Need
English	11	22	Social studies	12	6
Reading	14	15	Science	10	20
Mathematics	14	29	Foreign language	8	20

12. How many miles is this college from your permanent home? (Mark one)

5 or less	10	51-100	17
6-10	10	101-500	30
11-50	25	More than 500	8

13. Where do you plan to live during the fall term? If you had a choice, where would you have preferred to live?

(Mark one in each column)	Plan To Live	Prefer To Live
With parents or relatives	25	20
Other private home, apt. or rm.	5	22
College dormitory	65	46
Fraternity or sorority house	1	5
Other campus student housing	1	4
Other	3	4

14. Is this college your: (Mark one)

First choice?	78	Less than third choice?	1
Second choice?	17		
Third choice?	4		

15. To how many colleges other than this one did you apply for admission this year?

No other	1. 19	3. 12	5.	3
40	2. 16	4. 6	6 or more	4

Note: If you applied to no other college, skip to item 17 on the next page.

16. How many other acceptances did you receive this year? (Mark one)

None	23	1. 26	3. 15	5.	3
		2. 25	4. 5	6 or more	3

19. Were you last year, or will you be this year:

	Yes	No
Living with your parents (for more than two consecutive weeks)	85	15
Listed as an exemption on your parents' Federal Income Tax Return	77	23
Receiving assistance worth $600 or more from your parents	62	38

20. Are you: (Mark one)

Not presently married	95
Married, living with spouse	5
Married, not living with spouse	1

21. Are you: (Mark all that apply)

White/Caucasian	87
Black/Negro/Afro-American	8
American Indian	1
Asian-American/Oriental	2
Mexican-American/Chicano	1
Puerto Rican-American	0
Other	3

22. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark (F). If you engaged in an activity one or more times, but not frequently, mark (O) (occasionally). Mark (N) (not at all) if you have not performed the activity during the past year.

(Mark one for each item)

	Frequently	Occasionally	Not at all
Played a musical instrument	27	22	51
Attended a religious service	53	34	13
Smoked cigarettes	13	11	76
Took vitamins	21	38	41
Participated in organized demonstrations	3	13	84
Took a tranquilizing pill	1	9	90
Wore glasses or contact lenses	53	10	38
Attended a public recital or concert	23	56	21
Took sleeping pills	0	6	94
Jogged	19	46	35
Stayed up all night	8	53	39
Drank beer	18	48	34
Worked in a local, state, or national political campaign	3	10	87

23. Where did you rank academically in your high school graduating class? (Mark one)

Top Quarter . . ○52 3rd Quarter . . . . ○14
2nd Quarter . . ○31 Lowest Quarter . . ○ 3

25. What is the highest academic degree that you intend to obtain?

(Mark one in each column)

	Highest Planned	Highest Planned at this college
None	2	5
Associate (A.A. or equivalent)	3	15
Bachelor's degree (B.A., B.S., etc.)	31	61
Master's degree (M.A., M.S., etc.)	31	12
Ph.D. or Ed.D.	12	2
M.D., D.O., D.D.S., or D.V.M.	10	2
LL.B. or J.D. (Law)	5	2
B.D. or M.Div. (Divinity)	1	1
Other	5	1

26a. How many persons are currently dependent on your parents for support (include yourself and your parents, if applicable)?

1 8 2 9 3 19 4 23 5 22 6 or more 19

26b. How many of these dependents other than yourself are currently attending college?

None 62 1 27 2 8 3 or more 3

27. In deciding to go to college, how important to you was each of the following reasons?

(Mark one answer for each possible reason)

	Very important	Somewhat
My parents wanted me to go	24	4
I could not find a job	8	10
I wanted to get away from home	8	34
To be able to get a better job	74	20
To gain a general education and appreciation of ideas	71	26
To improve my reading and study skills	38	46
There was nothing better to do	3	9
To make me a more cultured person	35	48
To be able to make more money	50	38
To learn more about things that interest me	77	21
To meet new and interesting people	56	38
To prepare myself for graduate or professional school	48	33

28. Do you have any concern about your ability to finance your college education? (Mark one)

None (I am confident that I will have sufficient funds)	3
Some concern (but I will probably have enough funds)	5
Major concern (not sure I will have enough funds to complete college)	1

29. How would you characterize your political views? (Mark one)

Far left	2
Liberal	26
Middle-of-the-road	52
Conservative	18
Far right	1

30. What is your best estimate of your parents' total income last year? Consider annual income from all sources before taxes. (Mark one)

Less than $3,000		$15,000–19,999	
$3,000–3,999		$20,000–24,999	25
$4,000–5,999	15	$25,000–29,999	
$6,000–7,999		$30,000–34,999	10
$8,000–9,999	16	$35,000–39,999	
$10,000–12,499		$40,000–49,999	10
$12,500–14,999	24	$50,000 or more	

31. What is the highest level of formal education obtained by your parents?

(Mark one in each column)	Father	Mother
Grammar school or less	9	6
Some high school	12	10
High school graduate	26	34
Postsecondary school other than college	4	5
Some college	11	15
College degree	16	19
Some graduate school	4	3
Graduate degree	16	8

33. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

	Very important	Somewhat important	Not important
My relatives wanted me to come here	6	21	73
My teacher advised me	6	26	68
This college has a very good academic reputation	62	32	6
I was offered financial assistance	22	21	58
I was not accepted anywhere else	4	6	91
Someone who had been here before advised me to go	15	41	44
This college offers special educational programs	33	32	35
This college has low tuition	10	30	59
My guidance counselor advised me	10	29	61
I wanted to live at home	11	12	77
A friend suggested attending	8	27	65
A college representative recruited me	7	16	78

34a. Current religious preference: (Mark one in each column)

Baptist	
Congregational (U.C.C.)	
Eastern Orthodox	
Episcopal	
Jewish	
Latter Day Saints (Mormon)	
Lutheran	
Methodist	
Muslim	
Presbyterian	
Quaker (Society of Friends)	
Roman Catholic	
Seventh Day Adventist	
Unitarian-Universalist	
Other Protestant	
Other Religion	
None	

34b. Do you consider yourself a reborn Christian? Yes 33 No 67

35.

The Federal government is not doing enough to control environmental pollution	80
The Federal government is not doing enough to protect the consumer from faulty goods and services	72
The Federal government should do more to discourage energy consumption	83
There is too much concern in the courts for the rights of criminals	64
Urban problems cannot be solved without huge investments of Federal monies	42
People should not obey laws which violate their personal values	32
The death penalty should be abolished	33
A national health care plan is needed to cover everybody's medical costs	61
Energy shortages could cause a major depression or even wars in my lifetime if action is not taken now to prevent them	82
Abortion should be legalized	54
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A couple should live together for some time before deciding to get married	40
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If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time	43
Women should receive the same salary and opportunities for advancement as men in comparable positions	94
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It is important to have laws prohibiting homosexual relationships	40
College officials have the right to regulate student behavior off campus	16
Faculty promotions should be based in part on student evaluations	76
College grades should be abolished	16
Colleges would be improved if organized sports were de-emphasized	34
Student publications should be cleared by college officials	34
College officials have the right to ban persons with extreme views from speaking on campus	27
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Open admissions (admitting anyone who applies) should be adopted by all publicly supported colleges	33
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	77

37. Indicate the importance to you personally of each of the following:

Becoming accomplished in one of the performing arts (acting, dancing, etc.)	16
Becoming an authority in my field	72
Obtaining recognition from my colleagues for contributions to my special field	53
Influencing the political structure	18
Influencing social values	34
Raising a family	55
Having administrative responsibility for the work of others	33
Being very well off financially	50
Helping others who are in difficulty	72
Making a theoretical contribution to science	20
Writing original works (poems, novels, short stories, etc.)	15
Creating artistic work (painting, sculpture, decorating, etc.)	16
Being successful in a business of my own	44
Becoming involved in programs to clean up the environment	31
Developing a meaningful philosophy of life	61
Participating in a community action program	32
Helping to promote racial understanding	42
Keeping up to date with political affairs	41

38. What is your best guess as to the chances that you will:

Change major field?	12
Change career choice?	11
Fail one or more courses?	2
Graduate with honors?	12
Be elected to a student office?	3
Get a job to help pay for college expenses?	36
Join a social fraternity, sorority, or club?	18
Live in a coeducational dorm?	28
Be elected to an academic honor society?	9
Make at least a "B" average?	38
Need extra time to complete your degree requirements?	8
Get tutoring help in specific courses?	14
Have to work at an outside job during college?	18
Seek vocational counseling?	10
Seek individual counseling on personal problems?	8
Get a bachelor's degree (B.A., B.S. etc.)?	73
Participate in student protests or demonstrations?	4
Drop out of this college temporarily (exclude transferring)?	2
Drop out permanently (exclude transferring)?	2
Transfer to another college before graduating?	9
Be satisfied with your college?	56
Find a job after college in the field for which you were trained?	66
Get married while in college? (skip if married)	4
Get married within a year after college? (skip if married)	12

Prepared by the Laboratory for Research on Higher Education, University of California, Los Angeles, California 90024. Processed by Intran Corporation, 4555 West 77th Street, Minneapolis, Minnesota 55435

APPENDIX E

Percentage Responses of the Disabled to 1981 Follow-up Survey

Higher Education Research Institute, Inc.
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Los Angeles, California 90024
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1981 FOLLOW-UP SURVEY OF 1978 DISABLED FRESHMEN

When you entered college in 1978, you participated in the Cooperative Institutional Research Program's annual freshman survey. At that time, you were one of 7,000 students completing the freshman questionnaire who said you were handicapped. This survey asks for more information about you, and about your experiences since then. Even if you are not disabled, or are no longer in college, we want you to answer and return this questionnaire. Your responses will provide valuable information to help federal, state, and college policy-makers better meet your needs and those of similar students in the future.

This survey was developed by the Higher Education Research Institute in Los Angeles and funded by the Bureau for the Education of the Handicapped in Washington, D.C. Your responses will be held in the strictest confidence, and they will be presented only in summary form. Students whose disabilities do not affect their reading or writing should be able to complete the survey in about half an hour. We realize, however, that some people will need to take a longer time. Your thoughtful responses and willing participation are much appreciated. Please return your survey as soon as possible in the enclosed stamped envelope.

We welcome your comments. However, all stray marks or writing on this questionnaire will invalidate your responses. Therefore, please follow directions carefully and enclose your comments on a separate sheet of paper.

Sincerely,

Dr. James Henson
Judith K. Lawrence
Higher Education Research Institute

116A/3373-Intran-54321

1981 Follow-up Survey:

Percentage Responses for Total Disabled Sample (N=3,338)

Proper Mark: ● Improper Marks: ✓ X ⊙ O

1. What is your current status? (Mark one)

67 I am currently enrolled in college, and have been since 1978. (Answer item 2a and not 2b)

10 I withdrew from college temporarily but am currently enrolled again. (Answer items 2a and 2b)

15 I am temporarily not in college but plan to return soon. (Answer items 2a and 2b)

8 I have permanently withdrawn from college or intend to do so. (Skip 2a and answer 2b)

2a. Which of the following do you still expect to do in college? (Mark all that apply) See Table

- ○ Change major field
- ○ Change career choice
- ○ Fail one or more courses
- ○ Graduate with honors
- ○ Be elected to a student office
- ○ Make at least a "B" average
- ○ Need extra time to complete degree requirements
- ○ Get tutoring help in specific courses
- ○ Seek vocational counseling
- ○ Seek individual counseling on personal problems
- ○ Participate in protests and demonstrations
- ○ Drop out of college temporarily
- ○ Transfer to another college before graduation
- ○ Get a job after college connected with major field of study
- ○ Get a job after college for which a college degree is appropriate

2b. How important were each of the following factors in your decision to interrupt or terminate your education? (Mark one column for each factor)

See Table

	Very Important	Somewhat Important	Not at All Important
College did not provide adequate support services (e.g., note-takers, readers, interpreters, attendants)	○	○	○
I had completed my planned program	○	○	○
I had to assume family responsibilities (e.g., because of family illness)	○	○	○
I became ill/needed treatment	○	○	○
I got a good job offer	○	○	○
I needed to earn money (e.g., for school)	○	○	○
I (or my family) moved to a different location	○	○	○
I did not do as well academically as I thought I would	○	○	○
My relatives/spouse discouraged me from continuing	○	○	○
I decided I did not need a college degree	○	○	○
I wanted time to reconsider my goals and interests	○	○	○

2b. (Cont.)

	Very Important	Somewhat Important	Not at All Important
I changed my career plans	○	○	○
I was tired of being a student	○	○	○
I was unable to get the financial aid I needed	○	○	○
College expenses were too high	○	○	○
Expenses connected with my disability were too high	○	○	○
I wanted to get practical experience	○	○	○
I felt that a college education would not improve my job prospects	○	○	○
I didn't feel safe on campus	○	○	○
I had no place to study	○	○	○
I didn't "fit in" at college	○	○	○
I wanted to travel	○	○	○
I wanted to transfer to another institution but could not enroll immediately	○	○	○
Other (Indicate degree of importance)	○	○	○

3. Which of the following have you done (did you do) while in college? (Mark all that apply)

35 Changed major field
33 Changed career choice
32 Failed one or more courses
14 Was elected to a student office
29 Served on a campus committee
54 Got a job to help pay for college expenses
31 Joined a social fraternity, sorority, or club
58 Made at least a "B" average
11 Participated in protests or demonstrations
67 Felt satisfied with college

4. What type of high school did you attend most of the time? (Mark one)

79 Public
6 Private: Nondenominational
15 Private: Religious

5a. What type of arrangement best describes your educational program at each level? (Mark one in each column)

	Elementary Grades K to 5-6	Junior High Grades 6-7 to 9-10	High School Grades 9-10 to 12	College
Regular academic program with nondisabled peers	82	80	78	83
Regular academic program with special classes or services as needed	8	10	12	13
Regular school but segregated in special academic classes	5	6	8	1
Special school for the disabled	4	3	1	1
Other (Mark appropriate column)	1	2	1	2

5b. Did you take adaptive physical education rather than regular gym classes?

83 No (Go on to question 6)
4 Yes, Elementary (Grades K to 5-6)
6 Yes, Junior High (Grades 6-7 to 9-10)
9 Yes, High School (Grades 9-10 to 12)
8 Yes, College

6. What academic degree are you currently working toward, and what is the highest academic degree you intend to get? (Mark one in each column)

	Current Degree Planned	Highest Degree Planned
None	7	2
High school diploma or GED	2	1
Vocational diploma/certificate	1	1
Associate (A.A. or equivalent)	11	3
Baccalaureate (B.A., B.S., etc.)	73	20
Teaching credential	2	3
Master's (M.A., M.S., etc.)	2	40
Doctorate (Ph.D. or Ed.D.)	0	16
Professional degree (e.g., M.D., D.D.S., D.V.M., LL.B., J.D., B.D., M.Div.)	1	11
Other (Mark appropriate columns)	0	2

7. What is your current (or most recent) college class? (Mark one)

8 Freshman
12 Sophomore
28 Junior
48 Senior
4 Other

8a. How many colleges have you attended since fall 1978? (Mark one)

72 One (Go on to item 9)
24 Two (Answer item 8b)
5 Three or more (Answer item 8b)

8b. How important was each of the following factors in your decision to transfer from your first college to another institution? (Mark one column for each factor)

	Very Important	Somewhat Important	Not at All Important
My first college did not provide adequate support services (e.g., note-takers, readers, interpreters, attendants)	13	10	77
I completed my planned program at my first institution	18	6	76
I wanted a better social life	13	25	61
I wanted to go to a larger institution	14	16	70
I wanted to go to a smaller institution	8	9	82
I wanted to live in a different type of community	25	23	52
I wanted to be farther from home (parents)	7	10	83
I wanted to be closer to home (parents)	9	19	72
I or my family moved to a different location	3	3	94
I wanted to go to an institution with a better academic reputation	23	19	58
I wanted to take a different type of program than was offered at my first institution	37	17	45
I was generally dissatisfied with my first institution	30	23	47
I needed to attend a less expensive school	16	16	68
My financial situation improved so I could attend a more expensive school	3	6	91
I didn't feel safe on the campus of my first institution	3	3	93
I had no place to study at my first institution	2	9	90
I didn't "fit in" at my first institution	9	16	75
Other (indicate degree of importance)	25	12	63

9. What has been (was) your college enrollment status most of the time since 1978? (Mark one)

91 Full time
6 Part time
3 Not enrolled

10. What has been (was) your employment status most of the time while in college? (Mark one)

45 Not employed
6 Full-time employment off campus
27 Part-time employment off campus
2 Full-time employment on campus
21 Part-time employment on campus

11. In college, how concerned are (were) you about your ability to finance your college education? (Mark one)

46 Very much
35 Somewhat
20 Not at all

12. What is (was) your overall college grade average? (Mark one)

5 A or A+
11 A-
14 B+
16 B
23 B-
14 C+
14 C
3 D

13. Please indicate your most recent major field of study in college. (Mark one) See Table ____

ARTS AND HUMANITIES
- Art, fine and applied ○
- English (language and literature) ○
- History ○
- Journalism ○
- Language and Literature (except English) ○
- Music ○
- Philosophy ○
- Speech ○
- Theater or Drama ○
- Theology or Religion ○
- Other Arts and Humanities ○

BIOLOGICAL SCIENCE
- Biology (general) ○
- Biochemistry or Biophysics ○
- Botany ○
- Marine (Life) Science ○
- Microbiology or Bacteriology ○
- Zoology ○
- Other Biological Science ○

BUSINESS
- Accounting ○
- Business Admin. (general) ○
- Finance ○
- Marketing ○
- Management ○
- Secretarial Studies ○
- Other Business ○

EDUCATION
- Business Education ○
- Elementary Education ○
- Music or Art Education ○
- Physical Education or Recreation ○
- Secondary Education ○
- Special Education ○
- Other Education ○

ENGINEERING
- Aeronautical or Astronautical Eng. ○
- Civil Engineering ○
- Chemical Engineering ○
- Electrical or Electronic Engineering ○
- Industrial Engineering ○
- Mechanical Engineering ○
- Other Engineering ○

PHYSICAL SCIENCE
- Astronomy ○
- Atmospheric Science (incl. Meteorology) ○
- Chemistry ○
- Earth Science ○
- Marine Science (incl. Oceanography) ○
- Mathematics ○
- Physics ○
- Statistics ○
- Other Physical Science ○

PROFESSIONAL
- Architecture or Urban Planning ○
- Home Economics ○
- Health Technology (medical, dental, laboratory) ○
- Library or Archival Science ○
- Nursing ○
- Pharmacy ○
- Predental, Premedicine, Preveterinary ○
- Therapy (occupational, physical, speech) ○
- Other Professional ○

SOCIAL SCIENCE
- Anthropology ○
- Economics ○
- Geography ○
- Political Science (gov't., international relations) ○
- Psychology ○
- Social Work ○
- Sociology ○
- Other Social Science ○

TECHNICAL
- Building Trades ○
- Data Processing or Computer Programming ○
- Drafting or Design ○
- Electronics ○
- Mechanics ○
- Other Technical ○

OTHER FIELDS
- Agriculture ○
- Communications (radio, T.V., etc.) ○
- Computer Science ○
- Forestry ○
- Law Enforcement ○
- Military Science ○
- Other Field ○
- Undecided ○

14. Do (did) you have to study a particular field to get financial aid at college? (Mark one)

96 No
4 Yes

15. Where do (did) you live most of the time in college? Where would you prefer (have preferred) to live? (Mark one in each column)

	Actual Residence	Preferred Residence
College housing (dormitory, fraternity or sorority, other college housing)	58	41
Off campus (private room, apartment, or house)	35	54
Other (Mark appropriate columns)	7	5

16. With whom do (did) you live most of the time at college? With whom would you prefer (have preferred) to live? (Mark one in each column as appropriate)

	Actual	Preferred
With parents or relatives	24	10
Alone	10	30
With disabled roommate or roommates	2	2
With nondisabled roommate or roommates	59	48
With spouse	4	6
Other (Mark appropriate columns)	1	5

17. In college, do (did) you have tutoring or remedial work in any of the following subjects? (Mark all that apply)

73 No
6 Yes, reading
11 Yes, writing or composition
13 Yes, mathematics
1 Yes, social studies
5 Yes, science
3 Yes, foreign language
4 Yes, other

18. What is your probable career occupation?
(Mark one) See Table ____

- ◯ Accountant or actuary
- ◯ Actor or entertainer
- ◯ Architect or urban planner
- ◯ Artist
- ◯ Business (clerical)
- ◯ Business executive (management, administrator)
- ◯ Business owner or proprietor
- ◯ Business salesman or buyer
- ◯ Clergyman (minister, priest)
- ◯ Clinical psychologist
- ◯ College teacher
- ◯ Computer programmer or analyst
- ◯ Conservationist or forester
- ◯ Dentist (including orthodontist)
- ◯ Dietician or home economist
- ◯ Engineer
- ◯ Farmer or rancher
- ◯ Foreign service worker (including diplomat)
- ◯ Homemaker (full-time)
- ◯ Interior decorator (including designer)
- ◯ Interpretor (translator)
- ◯ Lab technician or hygienist
- ◯ Law enforcement officer
- ◯ Lawyer (attorney) or judge
- ◯ Military service (career)
- ◯ Musician (performer, composer)
- ◯ Nurse
- ◯ Optometrist
- ◯ Pharmacist
- ◯ Physician
- ◯ School counselor
- ◯ School principal or superintendent
- ◯ Scientific researcher
- ◯ Social, welfare or recreation worker
- ◯ Statistician
- ◯ Therapist (physical, occupational, speech)
- ◯ Teacher or administrator (elementary)
- ◯ Teacher or administrator (secondary)
- ◯ Veterinarian
- ◯ Writer or journalist
- ◯ Skilled trades
- ◯ Other
- ◯ Undecided

19a. In college, is (was) there any one person whose support, encouragement, guidance, or confidence in you is (was) central to your success? (Mark one)

- 38 No (Skip to question 20)
- 7 Yes, a personal friend (outside of school)
- 21 Yes, a family member (e.g., parent or spouse)
- 1 Yes, a high school friend
- 1 Yes, a high school teacher
- 0 Yes, a high school advisor, counselor
- 11 Yes, a college friend
- 12 Yes, a college professor, teacher
- 6 Yes, a college advisor, counselor
- 4 Yes, other

19b. Is this person:
(Mark one for each item below)

A.
- 50 Male
- 50 Female

B.
- 7 Disabled
- 93 Not disabled

C. Age
- 26 22 years or younger
- 14 23 to 29 years
- 60 30 years or older

20. Do you have a disability? (Mark all that apply and write your specific disability in the box below for each area that you mark.)

- ◯ No, I do not have a disability (Skip to question 30)
- ◯ Yes, visual (partially sighted, blind; not correctable with glasses or contact lenses)

677 = 20 percent

- ◯ Yes, hearing

392 = 12 percent

- ◯ Yes speech

84 - 2 percent

- ◯ Yes, orthopedic

750 = 22 percent

- ◯ Yes, learning

166 = 5 percent

- ◯ Yes, health-related (e.g., respiratory, heart)

331 = 10 percent

- ◯ Yes, emotional

33 = 1 percent

- ◯ Yes, other

283 = 8 percent

Multiple 622 = 19 percent

21. To what extent does (did) your disability area affect your functioning at college? (Mark one column for each of your disability areas)

	Very Much	Somewhat	Not at all
Visual	19	53	28
Hearing	19	62	19
Speech	28	64	8
Orthopedic	18	52	30
Learning	46	54	0
Health-related	16	68	17
Emotional	62	38	0
Other	11	29	59

22. When was (were) your disability (disabilities) diagnosed?
(Mark one)

11 Prenatally or at birth
27 Before age 5
27 Between ages 6-12
22 Between ages 13-17
15 Age 18 or older

23. Do you consider your disability to be:
(Mark one)

18 Visible/apparent
53 Sometimes apparent/sometimes not obvious
29 Hidden/not obvious

24. In college, how concerned are (were) you about expenses associated with your disability?
(Mark one)

14 Very much
31 Somewhat
29 Not at all
27 Not relevant to me

25. To what extent are (were) the facilities and activities of your college community accessible to you?
(Mark one)

57 Very much
22 Somewhat
3 Not at all
18 Not relevant to me

26. To what extent are (were) the community residents of your college town sensitive to and supportive of you as a disabled person? (Mark one)

15 Very much
23 Somewhat
14 Not at all
48 Not relevant to me

27. In college, to what extent does (did) your disability affect your experiences in each of the following areas?
(Mark one column for each area)

	Very much	Somewhat	Not at all
Academic	12	40	48
Social	12	43	44
Recreational, extracurricular	22	42	36
Psychological, emotional	11	39	50
Other (Indicate extent)	4	10	86

28. The following is a list of support services and accommodations that you may or may not use (have used) at college.
(Mark the appropriate column for each)

	Am Currently Using (Did Use)	Would Use If Available (Would Have Used)	Do (Did) Not Use (Not Relevant to Me)
Existing architectural accommodations (e.g., elevators, stair railings)	29	3	68
Adaptive architectural accommodations (e.g., ramps, adapted restroom facilities)	11	2	88
Adaptive equipment, assistive devices (e.g., tape recorders, braille)	12	5	83
Support service personnel (e.g., interpreters, readers, attendants)	6	5	89
Instructional accommodations	9	10	75
Time accommodations	10	11	79
Program accommodations	8	10	82
Performance evaluation accommodations	6	11	84
Adaptive physical education	7	13	80
Peer counseling from disabled students	2	10	87
Peer counseling from nondisabled students	12	7	79
Academic advising	55	8	37
Personal counseling, therapy	18	10	72
Vocational counseling	29	9	62
Repair services for assistive devices	3	6	91
Disabled student organizations, clubs	4	11	85
Nondisabled student organizations, clubs	44	5	51
Disabled student office, advocate	5	12	84
Legal services	4	10	86
Adaptive admissions criteria	3	7	90
Adaptive admissions procedures	4	8	88
Campus orientation	48	4	47
Financial aid for college expenses (e.g., tuition, books)	56	15	28
Financial aid for cost-of-living expenses (e.g., food, rent)	29	25	46
Financial aid for disability-related expenses	12	21	67
Transportation	18	17	65
Special parking	9	8	82
Registration priority	8	14	77
Other (Mark and specify below appropriate columns)	1	3	96

(Specify)

(Specify)

29. **To what extent do (did) you experience the following at college?** (Mark one column for each statement)

	Frequently	Occasionally	Seldom or Never
Faculty/staff underestimate my academic ability or potential	7	28	65
Faculty/staff overestimate my academic ability or potential	3	27	70
People underestimate my ability to handle frustration and stress	8	24	68
People overestimate my ability to handle frustration and stress	7	25	68
Faculty/staff ask me irrelevant or overly personal questions about my disability	3	14	84
Other students ask me irrelevant or overly personal questions about my disability	3	21	76
Because faculty/staff don't ask me meaningful questions about my disability, I must anticipate and answer such questions	5	21	74
Because other students don't ask me meaningful questions about my disability, I must anticipate and answer such questions	5	23	72
The failure of my instructors to accommodate to my disability-related needs makes academic work more difficult	9	19	72
I can handle risk better and am more independent than most people realize	36	28	36
People patronize me or talk to me as if I were a child	5	14	81
People talk about me rather than to me	6	20	75
My instructors avoid or ignore me	2	10	88
Other students avoid or ignore me	3	16	81
Faculty/staff make me feel that I cause them extra time and trouble	3	14	83
Other students make me feel that I cause them extra time and trouble	1	10	88
Because I have a disability, people assume that:			
I have other physical disabilities that I do not have	6	18	76
I am limited socially	8	24	68
I am limited in what I can do physically	16	29	55
I am limited in what I can do intellectually and academically	8	18	75

30. **Rate yourself on each of the following traits as you really think you are when compared with the average person of your own age. We want the most accurate estimate of how you see yourself.** (Mark one column for each trait)

	Above Average	Average	Below Average
Academic ability	53	42	4
Athletic ability	18	42	40
Artistic ability	27	41	33
Defensiveness	21	66	14
Drive to achieve	56	38	6
Leadership ability	39	50	10
Mathematical ability	34	41	25
Mechanical ability	22	47	31
Originality	43	50	6
Physical attractiveness	22	67	10
Political conservatism	12	57	31
Political liberalism	16	54	30
Popularity	19	69	12
Popularity with the opposite sex	17	60	23
Public speaking ability	25	43	32
Self-confidence (intellectual)	44	47	9
Self-confidence (social)	24	51	25
Sense of humor	51	46	3
Sensitivity to criticism	28	59	12
Stubborness	39	51	10
Understanding of others	64	34	2
Writing ability	39	46	14

31. **How important is each of the following to you personally?** (Mark one column for each item)

	Essential	Important	Not Important
Becoming accomplished in one of the performing arts (acting, dancing, etc.)	6	19	75
Becoming an authority in my field	32	53	14
Obtaining recognition from my colleagues for contributions to my special field	24	55	21
Influencing the political structure	7	29	63
Influencing social values	16	50	33
Raising a family	36	46	18
Having administrative responsiblity for the work of others	17	50	33
Being very well-off financially	25	52	23
Helping others who are in difficulty	42	54	4
Making a theoretical contribution to science	6	24	70
Writing original works (poems, novels, short stories, etc.)	11	24	65
Creating artistic work (painting, sculpture, decorating, etc.)	12	26	63
Being successful in a business of my own	19	35	45
Becoming involved in programs to clean up the environment	10	53	37
Developing a meaningful philosophy of life	42	44	13
Participating in a community action program	12	51	37
Helping to promote racial understanding	18	52	30
Keeping up-to-date with political affairs	20	52	27
Helping to promote the interests of the disabled	24	58	19

32. Age (as of December 31, 1980)
(Mark one)
86 22 years or younger
8 23-29 years
6 30 years or older

33. Are you: (Mark one)
89 Single (never married)
9 Married
2 Separated, divorced, or widowed

34. Do you have children? (Mark one)
92 No
3 Yes, one child
5 Yes, more than one child

35. What is your current religious preference?
(Mark one)
38 Protestant
30 Roman Catholic
4 Jewish
14 Other
5 Undecided
9 None

36. Do you consider yourself a born-again Christian?
(Mark one)
74 No
26 Yes

37. Indicate your income sources:
(Mark one column for each item)

	Major	Minor	Not a Source
Parents, relatives, inheritance, etc.	50	27	22
Spouse	6	2	92
Self (earnings from employment, savings, etc.)	50	40	10
Social Security benefits	10	4	86
Veterans' benefits	3	2	95
Vocational Rehabilitation funds	15	12	73
Supplementary Support Income	5	3	92
Federal college-related financial aid (loan, grant, etc.)	36	18	46
Scholarship from college	10	14	76
Scholarship from outside agency, organization	5	12	84
Other (Mark appropriate column)	6	7	87

38. What is your current annual income from all sources?
(Mark one)
10 No income
53 $4,999 or below
19 $5,000 - $9,999
12 $10,000 - $19,999
5 $20,000 or above

39. Which of the following life patterns would you prefer ten to fifteen years from now? (Please indicate one answer in each group)

(a)
6 single
87 married
6 living with a person of opposite sex but not married
2 other

(b)
16 no children
10 one child
48 two children
20 three or more children
6 adopt one or more children

(c)
79 full-time career
19 part-time career
2 not employed

40. How would you characterize your political views?
(Mark one)
4 Far left
24 Liberal
49 Middle-of-the-road
24 Conservative
1 Far right

41. How long did it take you to answer this questionnaire?
(Mark one)
44 Less than ½ hour
48 ½ hour to 1 hour
6 1 hour to 1½ hours
1 1½ hours to 2 hours
1 More than 2 hours

42. Did you need help to answer this survey?
(Mark all that apply)
95 No
3 Yes, reading
2 Yes, marking or writing answers

THANK YOU VERY MUCH FOR YOUR HELP.

PLEASE ADD COMMENTS ON A SEPARATE SHEET OF PAPER.

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